

EASTON AREA JOINT SEWER AUTHORITY

Lehigh River

Delaware River

Dedicated to the protection of our rivers

2017 ANNUAL REPORT



Chairman's Message



This is the first annual report of the Easton Area Joint Sewer Authority which is intended to provide our member municipalities' governing bodies, municipal staff and the public with information about the operation of the Authority.

For the past several years the Authority along with its professional staff has been very active in many projects throughout the conveyance and wastewater treatment plant to continue the program of updating the facilities, to meet the requirements of the PA DEP and EPA, and to improve the efficiency. The projects completed in 2017 are reported within this document.

The financial status of the Authority continues to be strong. Over the past several years our capital spending has been high as the result of the previously mentioned projects. However, through refinancing and paying down debt, the Authority has been able to keep its annual debt service at a consistent level. The major operational expenses come from the operation of the wastewater treatment plant. In 2017, the expenses were below budget which followed a trend of the past several years.

I want to thank my fellow Authority Board members who volunteer their time to serve the Authority and their respective communities. I also thank the management and staff of the wastewater treatment plant for their commitment and dedication in operating the plant in a safe and effective manner so as to carry out our mission. And finally, I thank our professional staff for providing the expert counsel which we need in making the proper decisions in the best interest of the Authority.

Richard Marzuoli
Chairman

Mission Statement

EAJSA delivers exceptional value to our member municipalities through our high quality and reliable wastewater services. We will meet the need and expectations of our stewardship that protects and preserves water resources for current and future generations.

EAJSA Board Members

Richard Marzuoli (Easton) - Chairman
Robert A. Lammi (Palmer) - Vice Chairman
James McGowan (Wilson) - Treasurer
Stephen Riegel (Tatamy) - Secretary
Robert Blanchfield (Palmer) - Member
Carl Dicker (Forks) - Member
David Hopkins (Easton) - Member
Paul James (West Easton) - Member
Joseph Mauro, Jr. (Easton) - Member
Charles Peterson (Easton) - Member
Robert Werner (Easton) - Member
John Van Arman (Easton) - Member

Professional Staff

Consulting Engineer - SC Engineers
Solicitor - McFall, Layman & Jordan, P.C.
Accountant - John Schimmel
Auditor - Palmer & Company
IPP Manager - Alexandria Hoffman
WWTP Superintendent - William Ronyack
Secretary to the Authority - Barbara Kipp

History of the Easton Area Joint Sewer Authority



Member Municipalities
Total Population - 72,167

Wastewater also comes from
portions of Lower Nazareth,
Bethlehem Township, Glendon, and
Williams Township

The Easton Area Joint Sewer Authority was incorporated December 10, 1976. Many years prior to that the wastewater treatment plant (WWTP) was owned by the City of Easton and initially built in 1950. It treated wastewater from the City of Easton and the Boroughs of Wilson and West Easton. As the Townships of Palmer and Forks began to grow and sanitary sewer systems were installed, their wastewater entered the Easton WWTP. As the township's continued to grow it was determined the plant needed to expand. During 1975, Palmer Township and the Bushkill Lower and Lehigh Joint Sewer Authority, made up of the Townships of Bushkill, Plainfield, Upper Nazareth and the Boroughs of Stockertown and Tatamy, were debating whether to send their wastewater to the Easton WWTP or build a new plant in Palmer Township next to the Lehigh River.

In the latter part of 1975, the negotiations between the City and the other parties determined the right decision was to consolidate all wastewater into the Easton WWTP. An agreement to move forward with this consolidation was signed June 24, 1976. Based on this agreement, the plant would be expanded from 5.0 to 10.0 million gallons/day. The agreement also stipulated that the Easton Area Joint Sewer Authority would be formed. As time passed, the municipalities of the Bushkill Lower Lehigh Joint Sewer Authority decided to pursue other options for sewer treatment with the exception of Tatamy. Therefore, the current members of the EAJSA are Easton, Forks, Palmer, West Easton, Wilson, and Tatamy.

The Authority is empowered to acquire, hold, construct, improve, maintain and operate its conveyance system and the wastewater treatment plant. The City of Easton owns the WWTP, leases it to the Authority and provides staff to operate the plant through an agreement with the Authority. The governing body of the Authority is its Board composed of 12 members who are appointed by the governing bodies of the Member Municipalities to five-year terms. The Authority Board is responsible for general oversight of the business affairs of the Authority Board implemented by its staff hired by the Board.



Industrial Pretreatment Program

The Easton Area Joint Sewer Authority (EAJSA) Industrial Pretreatment Program (IPP) was initiated as part of an EPA requirement to monitor and control non-domestic Users of the wastewater system and WWTP that discharge toxic unconventional or unusually strong conventional wastewater. The EAJSA's IPP was approved by the EPA and initiated in 1984. The goal of the program is to prevent interference with the WWTP operations, pass-through of pollutants, sludge contamination and exposure of workers to chemical hazards. The Program is managed by Alexandria Hoffman and currently has 36 permitted Users.

The IPP sampling and analysis is being performed by M.J. Reider Associates, Inc. M.J. Reider was contracted by the Authority in 2015. This monitoring is necessary to assure that the Users are meeting the regulations set by the EPA and/or Authority.

The main goal of the EAJSA IPP is to create a program that allows for growth in the service area in a sound environmental manor. Over the past year, the Program has taken a strong initiative to educate Users concerning the effects of their discharge, keeping them informed of current regulations and changes: leading to compliance and WWTP optimum performance.

This program is totally funded by the permitted Users.



Major Projects/Studies

Over the past several of years the Authority has been in the capital project mode. There are three reasons for this. The first was to continue the program of updating the plant which was built in the 1950s and expanded in the 1970s. The second was to meet the requirements of the PA DEP and EPA. And the third was to improve the efficiency of the plant.

Major Projects Completed in 2016, 2017 and Carried Over to 2018

- In 2016, the Authority replaced the sludge belt filter press with a centrifuge system. Prior to making the decision to move in this direction piloting was conducted on different centrifuges to determine the one that would give best results.
- Prior to going to the Oxidation Ditch technology the biological process was rotating biological contractors (RBCs). Since the RBCs were taken out of service many years ago they have remained installed. They were removed and the concrete contact chambers were cleaned. The concrete contact chambers remain until a decision on what the future of the area will be. This project was completed in 2016.
- The Oxidation Ditch, which is the heart of the biological process of the wastewater treatment plant, was in need of refurbishment of many of the components. These included: the aerators, gear boxes and motors, replacement of weir gates, cleaning and painting. The project took a good portion of 2017 because each of the three trains had to be taken down one at a time to keep the plant operating and meeting the plant effluent requirements.
- Digester No. 2 was taken out of service, emptied and cleaned in preparation for major work to the unit. Repairs/replacement of mixes, motors, valves and piping were completed. Also, the outside of the cover was painted and reinsulated to extend its life expectancy. This project was completed in 2017.
- The installation a new fiberglass reinforced plastic tank inside a

new concrete containment structure for magnesium hydroxide storage, associated equipment, and modifications to the Hauled Waste Receiving Facility began in 2017 and will continue into 2018.

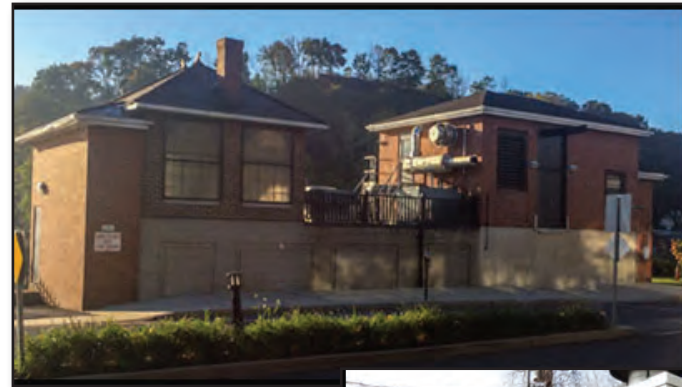
- Another major project that began in 2017 and will continue through 2018 is the Pumping Station Upgrades. The Authority has three stations in the system. One on Lehigh Drive, one at Second Street. and one on South Delaware Drive (Rt. 611). The project includes the demolition and removal of and the installation of new pumps, piping, valving and related mechanical and electrical equipment. This is a complex project because wastewater must continue to be pumped while the work is being done.
- Another major project to be worked on in 2018 will be the Equipment Upgrade Project at the WWTP. This project consists of the replacement of the primary effluent valves, piping, and controls and other pump room modifications in the Control Building; the replacement of the polymer system, utility water booster pump, and other building modifications in the Sludge Thickening Building; the removal of the polymer system from the Chlorine Building; the construction of a new Chemical Building near the Final Clarifier Flow Division Box to house a new polymer system and the relocated ferric chemical system and all related piping modifications; rehabilitation of the three (3) Final Clarifiers; the replacement of various slide gates at the Screening Facility; structural modifications to the masonry building walls of the Solids Handling Building; and all related rehabilitation work associated with the project.
- All of the work done since 2016 and to be done in 2018 is funded by the Sewer Revenue Bonds, Series of 2015. Of the estimated cost for these projects (\$13,850,000) the amount spent in 2017 was \$4,939,934 with the remainder to be spent in 2018 and possibly into 2019.
- In addition to the major projects there were a number of

Continued from previous page

smaller projects that were funded out of the annual capital budget of the Authority. Of the estimated (\$496,644) cost, the projects completed were \$329,885.

Studies Conducted in 2017

- In 2017, the Authority authorized SC Engineers to conduct a study to determine the current value of the WWTP and conveyance system capacity which was last updated in 2003. Based on this study the Authority passed a resolution setting the price.
- In 2016, the Authority authorized a study to determine the opportunities available to turn the plant's biogas, which is burned in two boilers or flared most of the year, into usable energy. In 2017, a study was done to determine how much high strength waste was available in the region to be added to the plant's digesters to produce more biogas thus a greater energy generation opportunity. In 2018, with the information gathered from these studies along with a pilot FOG (fats, oils and grease) study which is being conducted by Manhattan College the Authority will be able to determine the feasibility of moving forward with this concept to a project status.

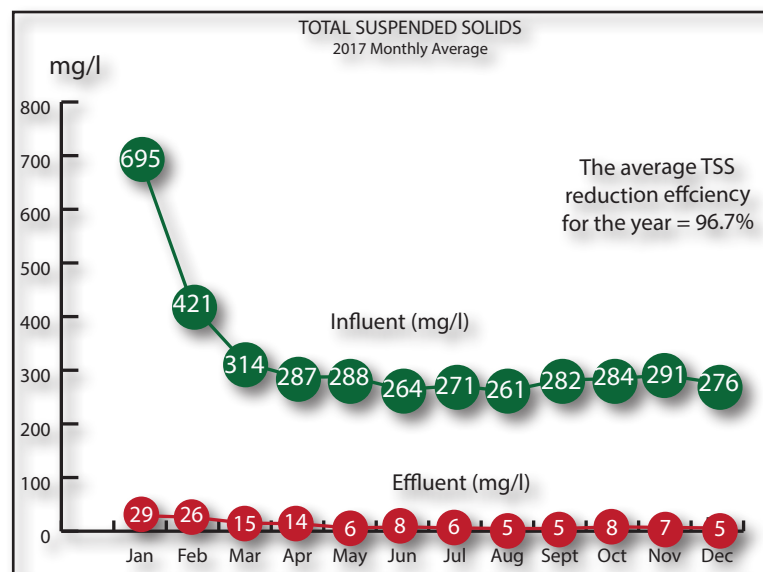
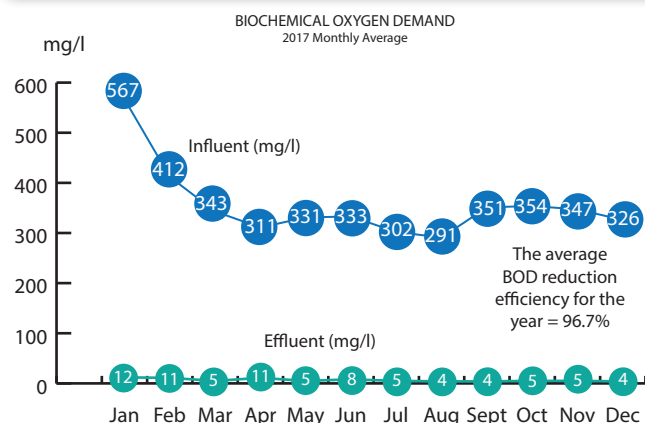


PLANT PERFORMANCE

The WWTP is located on South Delaware Drive (Route 611) south of Easton. The plant, which was built in the 1950s, still has much of the same major equipment that it had since the beginning. Through the years there have been a number of major modifications and recently there have been a number of modifications that have been necessary to meet the regulations of the PA Department of Environmental Protection. As a result, performance of the plant has improved thus providing a high quality effluent to the Delaware River that meets the goal of the plant and meets the requirements of the PADEP, EPA and Delaware River Basin Commission.

One of the capital improvements which has helped the plant management and staff is the implementation of a computerized monitoring system (SCADA). The WWTP includes many pieces of complex equipment so it needs this type of system to quickly react to changes or alarms in order to provide a consistent, high quality discharge to the river. This real-time monitoring system provides data information to the plant operators in the control room so they can make adjustments where necessary to keep the plant within its operating limits.

There are many parameters the plant monitors and includes within their monthly report to the PADEP. To the right are graphic representations of two examples: Five Day Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS). For the BOD, the effluent permit limit is a monthly average of 25.0 mg/l and for TSS the effluent permit limit is 30.0 mg/l. As noted on the graphs both parameters are below the permit limits.



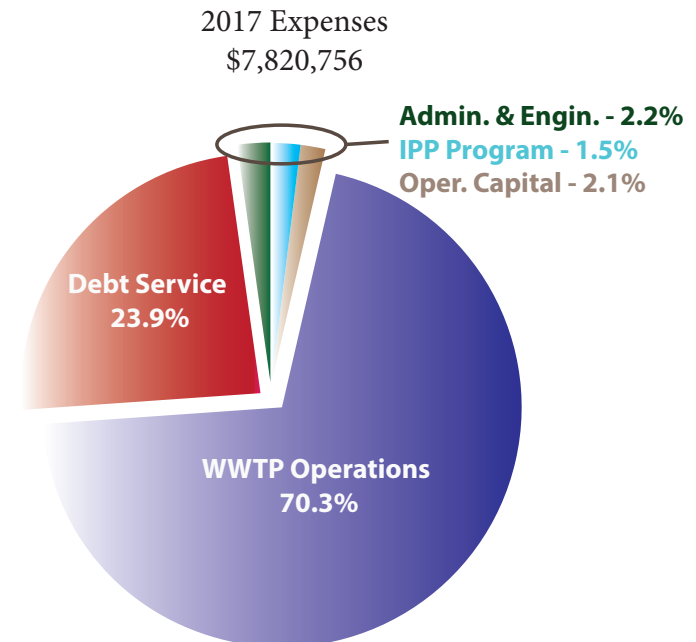
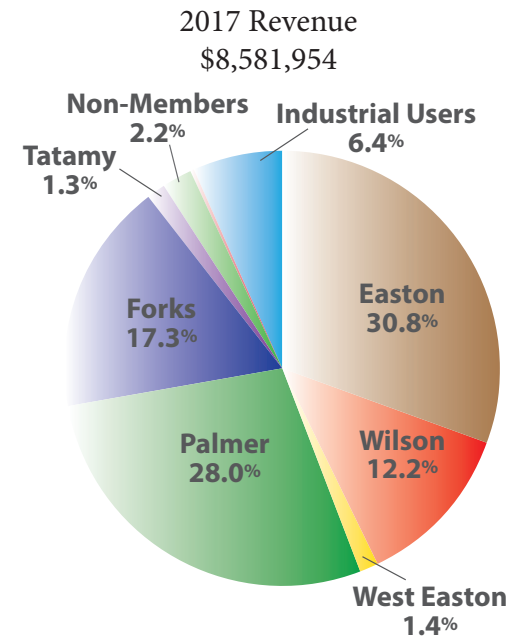
EAJSA Financial Information

Audited Net Position

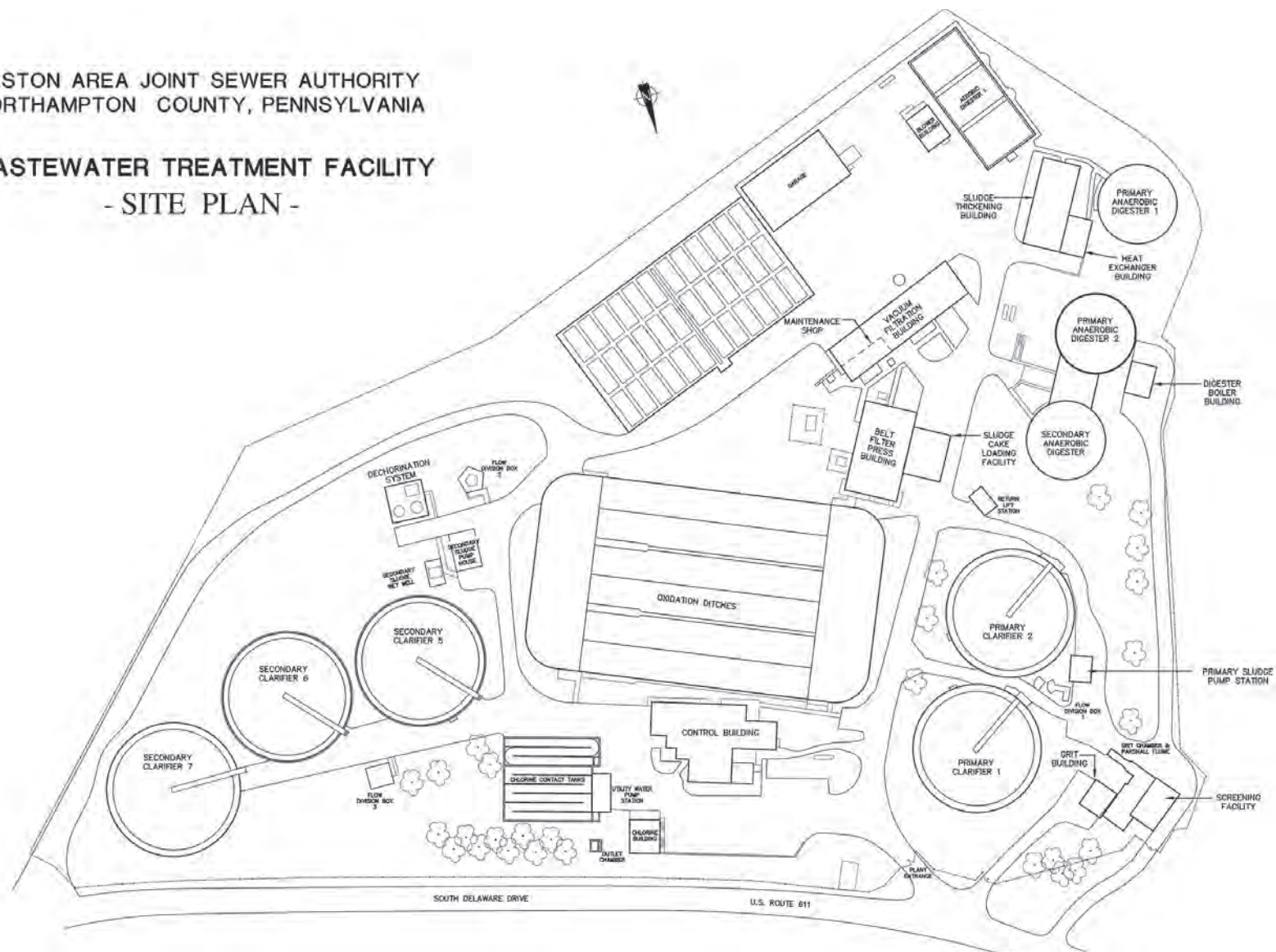
	<u>2016</u>	<u>2015</u>
Current Assests	\$5,051,977	\$3,796,879
Non-Current Assests	<u>\$33,633,649</u>	<u>\$35,796,879</u>
Total Assests	\$38,685,649	\$39,259,541
Current Liabilities	\$1,742,441	\$1,389,406
Non-Current Liabilities	<u>\$23,105,142</u>	<u>\$24,076,145</u>
Total Liabilities	\$24,847,583	\$25,465,551
Net Position	\$13,838,043	\$13,793,990

Audited Changes in Position

	<u>2016</u>	<u>2015</u>
Opaeating Revenues	\$8,546,674	\$8,227,960
Operating Expenditures	<u>(\$7,846,221)</u>	<u>(\$7,705,073)</u>
Operating Income	\$700,453	\$552,887
Bond Closure & Underwriting	\$0	(\$337,084)
Interest Expense	(\$659,269)	(\$236,106)
Interest Income	<u>\$2,869</u>	<u>\$919</u>
Change in Net Position	\$44,053	(\$49,384)
Net Position Beginning	<u>\$13,793,990</u>	<u>\$13,843,374</u>
Net Position Ending	\$13,838,043	\$13,793,990



WASTEWATER TREATMENT FACILITY
- SITE PLAN -



9

Designed by Bob Lammi