

## ALTOONA WATER AUTHORITY WESTERLY WASTEWATER TREATMENT FACILITY

### PROJECT DESCRIPTION

The Altoona Water Authority recently upgraded their Westerly Wastewater Treatment Facility to comply with the Chesapeake Bay Nutrient Strategy and to provide treatment of wet weather flows from their combined sewer system. The \$30M project employs a unique hybrid BNR process with a step feed provision that diverts wet weather flows to the last aerobic zone to protect the BNR biomass.

The plant has an average daily flow capacity of 10.8 MGD with a peak hydraulic capacity of 60.0 MGD. In addition to the BNR process reactors, the project included new fine screens and vortex grit systems, new high speed turbo blowers for aeration and digestion, two new clarifiers, a UV disinfection system and a centrifuge for solids dewatering.

The facility operates extremely well with an average effluent Total Nitrogen of 3.0 mg/l and Total Phosphorus of 1.0 mg/L. The plant generates annual nutrient credits without the use of supplemental carbon or chemical

for phosphorus precipitation. The Authority generates significant revenue annually from the sale of nutrient credits and they have reduced their operating costs by more than \$100,000 per year. The facility easily achieves their NPDES limits despite extreme wet weather flows from the combined sewer system.



### PROJECT SUMMARY

Gwin, Dobson & Foreman designed one of the state's largest and most complex BNR wastewater projects for the Altoona Water Authority. This \$30 million project employs a unique step-feed process for treatment of wet weather CSO flows while preserving nutrient biomass.

*continued on page 2*



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## *Altoona Water Authority*

### *Westerly Wastewater Treatment Facility continued*

The Westerly wastewater treatment plant was designed under the following criteria:

#### **Upgrade and Expansion**

Capacity: 10.8 MGD (ADF); 16.8 MGD (Max. Month); 45.8 MGD (Peak)  
Annual Average Concentrations – 5.0 mg/l (TN) and 0.67 mg/l (TP)

#### **Treatment Goals**

Achieve Annual Mass Loading Limit for Nitrogen and Phosphorus

Treat Wet Weather CSO Flow

Hydraulic Expansion for Increased Capacity

Unit Operations and Process Systems

1. Headworks – Fine Screening and Vortex Grit Separation
2. Suspended Growth Nutrient Removal Technology
3. BNR Process Configured for Virginia Initiative Process (VIP), Stage 4/5-Bardenpho and other options
4. Aeration Blowers (Turbo-type)
5. Fine Bubble Membrane Diffuser (Oxic) and Submersible Mixers (Anoxic)
6. Internal Nitrate and MLSS Recycle
7. Step Feed Capability for Wet Weather Flows from Upstream CSO System
8. Final Clarification with RAS Returns
9. Ultraviolet Disinfection with Screw Lift Flood Pumps (Westerly Plant only)
10. Solids Handling – Aerobic Digestion, Belt Thickener, Centrifuge Dewatering, Biosolids Storage

The plant generated over \$200,000 of nutrient-credit revenue and a \$100,000 reduction in operating costs in its first year of operation. The project was endorsed by the president of the Water Environment Federation and the state regulatory agency has praised the unique and cost effective design.

The American Academy of Environmental Engineers and Scientists conferred its 2013 Superior Achievement award, which is one of the nation's most prestigious environmental awards, to GD&F for the design of the Westerly project.

## PRESIDENT'S MESSAGE

About 11 years ago, Jay Patel, my co-worker at the time, approached me about becoming involved with CPWQA. I was only a few years out of school and I didn't know much about the Association. However, I thought highly of Jay (still do) and if he thought it would be good for me to join, then that was all I needed to know. Because of this one short conversation, 11 years later I can say that a majority of the relationships that I have built in this industry are due to my involvement in CPWQA.

So, thank you Jay and thank you to the leadership and membership within CPQWA for allowing me to serve as your President. I know that I've been able to get so much out of the last decade because I have been an ACTIVE member. My activity included attending the plant tours, annual awards outing and the Go with the Flow Outing, participating on various committees, serving as editor, and organizing various events. Through these activities, I was able to build relationships and learn a great deal about our industry.

In my opinion, the number one benefit of becoming a CPWQA member is becoming part of a network that allows you to learn from others and develop your skills.

During 2017, my goal as President is to encourage ACTIVE membership, improve communication to membership, and to allow a better membership experience by embracing technology as an association.

In order to improve membership, we have had customized membership software developed that will allow us to track member information such as location, experience, and activity. We'll be able to see who goes to which events and what we might be able to do to best serve members from all locations. Additionally, we'll be offering free membership to all active college students who have a major related to our industry. This will give the students an opportunity to learn from experienced members and allow members a chance to meet potential hires.

The key to any successful organization is effective communication. CPWQA membership will begin receiving emails periodically that will contain critical information such as training opportunities, schedule of events, and newsletters. We will still be sending out hardcopy information, but as time passes, and we obtain more and more email information, we will be transitioning to electronic communication. We have also hired Marykay Steinman as an Association Administrator. Marykay will effectively manage memberships, event registrations, training and other related duties in order to improve services to our members.

The common theme for the items above is that we'll be using technology as a resource to better serve our members. It is our goal for members to directly experience the benefits of belonging to CPWQA. Another example of additional benefits of membership is access to training webinars, with CEU accreditation, that will be offered annually. We are working with the other Sections to offer 2-3 webinars per year that will be available, at no cost, to existing members.

In closing, please note that my goal as President of CPWQA is to implement measures that can be used as the foundation to directly benefit membership moving forward. However, in order for CPWQA to be successful, we need ACTIVE membership throughout the year. Please attend our plant tours, awards meeting, golf outing, and Trade Show, or even join a committee, as your schedule allows. Your participation may lead to a discussion with a fellow operator that helps you out at your own facility, or it might be how you meet your next staff hire. I can only speak from my own experience, but I am very grateful for all that I have learned from many of you over the years due to my active participation.

Thank you again for allowing me to serve as the CPWQA President in 2017. It's going to be a great year!



*Mike Mehaffey*  
mmehaffey@gfnet.com



# MEMBERSHIP UPDATE

## NEW MEMBERS

Bell, Adam  
Bilger, Greg  
Blate, Micah  
Buracker, Eric  
Fernsler, John S.  
Foust, Keith  
Gochenaur, Joe  
Grove, Ronald  
Judy, Robert  
Kershaw, RuthAnn  
Kimmel, Eric  
Klingaman, John H.  
Koch, Michael  
Lanman, Lester  
Lawrence, Drew  
Leas, Daryl  
Lehr, Mike  
MaCoy, Eli J.  
Marek, Anne

Maun, Bryan  
Mayers, Timothy  
Miller, Dean  
Moran, Ryan  
Murphy, Kerri  
Nolt, PE, Tim  
Pierce, William  
Price, Joshua P.  
Schell, Daniel  
Schreffler, David E.  
Sheridan, John  
Sherwood, F. Russell  
Shugars, Jr., Mark G.  
Tarnowski, Dennis  
Timmons, Henry  
Wenger, Vaughn  
Wetten, Michael  
Wetzel, Andrew  
Wilbern, Curt  
Winters, Adam

## LIFE MEMBERS

Barnhart, Eugene  
Beistline, D E.  
Craig, Larry E.  
Craig, Terry  
Debo, Maynard  
Decker, Gene R.  
Deparasis, Orlando  
DeVore, Thomas E.  
Dipperly, Michael J.  
Garvick, Jeffrey R.  
Greene, Richard  
Gump, Robert  
Heller, Glenn  
Hinsh, Donald M.  
Hoskavich, Steve  
Ingiosi, John  
Jones, Thomas H.  
Kreiser, Mike  
Latsha, PE, John L.

Megonnell, Robert  
Myers, PE, Raymond H.  
Reigle, William M.  
Reinecker, Gregory  
Rider, Lawrence  
Ritter, Richard T.  
Ryan, James G.  
Seward, Keith R.  
Shadle Jr, John H.  
Shope, PE, Dale C.  
Thompson, Ralph W.  
Treat, Edward  
Wertz, Elmer  
Zeigler, James L.  
Zigment, Anthony  
Zimmerman, Paul C.

## ARE YOU A LIFE MEMBER??

Article 2.05 of the Bylaws of CPWQA states that, "Any person, who has been a member of the CPWQA for a period of ten or more years and has retired, shall be considered for life membership by the Board of Directors. Life membership shall be active membership. The additional privileges of life membership shall include free membership and free admission to all regular meetings of CPWQA. Additional privileges shall be granted by the Board of Directors and listed in these Bylaws." If you meet these qualifications, please notify a Board Member so that you can be considered for this classification.

## CPWQA BY-LAWS Amendment

*In accordance with the CPWQA Board Meeting Minutes.*

**5.03 Election of Officers:** Each of the Officers of the CPWQA will be elected annually by The General Membership. Each Officer will remain in office until a successor to the office has been nominated and confirmed by the general membership. Election of officers will be held at a meeting of the general membership. A proposed slate of Officers made by the nominating committee and alternate nominations made by any member in good standing at that meeting shall be voted upon by the general membership.

### 5.07 Committees

- i. Nominating Committee: Shall consist of all three (3) Trustees, and the First Trustee will serve as the Chair. The Committee shall prepare a slate of nominees for various offices to be presented at a general meeting to be voted upon by the general membership.
- n. Stormwater Committee: The Committee shall consist of four (4) members. The Chair shall be familiar with CPWQA affairs and procedures. The Committee members shall be familiar with current stormwater technologies and regulations. The members will assist in acquiring articles from CPWQA members for publication in the CPWQA Newsletter and the PWEA Magazine.

**10.01 Modification of Bylaws:** Amendments to these Bylaws shall be adopted by a majority vote of the members present at any general meeting of the membership or at the option of the Board of Directors, by letter ballot to the general membership, and by a majority Affirmative vote of the returned ballots. Notice of the proposed amendments shall be distributed to the membership in advance of the meeting by newsletter, general mailing, or any other form of notification, or in the case of a letter ballot, the announcement shall be included on the ballot and shall serve as sufficient notice.

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## 2017 IMPORTANT DATES

April 7, 2017  
WESTERLY ALTOONA  
PLANT TOUR  
*Altoona, PA*

May 12, 2017  
SUNBURY WASTE WATER  
TREATMENT PLANT TOUR  
*Sunbury, PA*

August 4, 2017  
GO WITH THE FLOW

September 8, 2017  
SUPER TOUR  
& TRADE SHOW  
Capital Region Water Harrisburg



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Central Pennsylvania Water Quality Association

### **\*\*REMINDER\*\***

### **IT IS AWARDS TIME AGAIN.**

**We are not sending out mailers this year so PLEASE go to [CPWQA.org](http://CPWQA.org) and look at our Nomination form.**

We hope you take the time to nominate a worthy Co-Worker for one of the Awards or Nominate your own Wastewater Plant or Collection System for a Safety Award.

***The nominations are due no later than May 1st.***

### **UPCOMING YP EVENTS:**

**Spring YP event at the Midstate Distillery in Harrisburg on March 23rd.** Tour and then happy hour to follow. Time is TBD.