

# Buckeye Bulletin



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pg. 58-63



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**WEF Delegate** Fred Smith  
CDM Smith, Inc.  
[smithfj@cdmsmith.com](mailto:smithfj@cdmsmith.com)

**WEF Delegate** Elizabeth Wick  
[DEZSLL6@gmail.com](mailto:DEZSLL6@gmail.com)

**NE Delegate** Mary Ann Driscoll  
Burgess & Niple, Inc.  
[MaryAnn.Driscoll@burgessniple.com](mailto:MaryAnn.Driscoll@burgessniple.com)

**SW Delegate** Dave Wilson  
BL Anderson  
[dwilson@blanderson.com](mailto:dwilson@blanderson.com)

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City of Columbus  
[mlclark@columbus.gov](mailto:mlclark@columbus.gov)

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Jones & Henry Engineers  
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**NW President** Tony Hintze  
[thintze@fremontohio.org](mailto:thintze@fremontohio.org)

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[bill.zawiski@epa.ohio.gov](mailto:bill.zawiski@epa.ohio.gov)

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[douglas.clark@bgohio.org](mailto:douglas.clark@bgohio.org), [tfish@fishbaugh.com](mailto:tfish@fishbaugh.com)

**Awards** Kim Furry  
[kim.furry@cityhall.lima.oh.us](mailto:kim.furry@cityhall.lima.oh.us)

**Certification** Kathy Beckett  
[KMRish@columbus.gov](mailto:KMRish@columbus.gov)

**Charitable Outreach** Afaf Musa and Stephanie Johnson  
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**Collection Systems** Afaf Musa and Dan Martin  
[musaab@cdmsmith.com](mailto:musaab@cdmsmith.com), [dmartin@raconsultantsllc.com](mailto:dmartin@raconsultantsllc.com)

**Contact Hours** Marc Morgan  
[mmbmorg@frontier.com](mailto:mmbmorg@frontier.com)

**Governance** Jason Tincu  
[jtincu@co.greene.oh.us](mailto:jtincu@co.greene.oh.us)

**Government and Regulatory Affairs** Elizabeth Toot-Levy  
[etootlevy@Geosyntec.com](mailto:etootlevy@Geosyntec.com)

**Laboratory Analysts** Melodi Clark and Tony Hintze  
[mlclark@columbus.gov](mailto:mlclark@columbus.gov), [thintze@fremontohio.org](mailto:thintze@fremontohio.org)

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[smithfj@cdmsmith.com](mailto:smithfj@cdmsmith.com)

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**Pretreatment and Industrial Waste** Sharon Vaughn  
[sharon.vaughn@cityofdayton.org](mailto:sharon.vaughn@cityofdayton.org)

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[KStilwell@structurepoint.com](mailto:KStilwell@structurepoint.com)

**Publications** Elizabeth Wick  
[DEZSLL6@gmail.com](mailto:DEZSLL6@gmail.com)

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[jgellner@hazenandsawyer.com](mailto:jgellner@hazenandsawyer.com)

**Safety** Mike Welke and Nathan Coey  
[mwelke@warren.org](mailto:mwelke@warren.org), [ncoey@woosteroh.com](mailto:ncoey@woosteroh.com)

**Sponsorship** Fred Smith  
[smithfj@cdmsmith.com](mailto:smithfj@cdmsmith.com)

**Student Design** Muralikrishna Chelupati  
[muralikrishna.chelupati@stantec.com](mailto:muralikrishna.chelupati@stantec.com)

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[Pfletcher@jheng.com](mailto:Pfletcher@jheng.com)

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[doug.baldessari@bakertilly.com](mailto:doug.baldessari@bakertilly.com)

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[atangirala@msconsultants.com](mailto:atangirala@msconsultants.com), [bringley@blueheronengineering.com](mailto:bringley@blueheronengineering.com)

**Young Professionals** Kevin Connor  
[kconnor@cityofdefiance.com](mailto:kconnor@cityofdefiance.com)

## Staff

**Executive Administrator** Dawn Larsen  
[dawn@ohiowea.org](mailto:dawn@ohiowea.org)

**Association Coordinator** Megan Borrer  
[megan@ohiowea.org](mailto:megan@ohiowea.org)

**Administrative Assistant** Chelsea Cameron  
[chelsea@ohiowea.org](mailto:chelsea@ohiowea.org)



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### Ohio Water Environment Association

1890 Northwest Blvd, Suite 210  
Columbus, OH 43212  
T: 614.488.5800  
F: 614.488.5801  
E: info@ohiowea.org  
www.ohiowea.org

Elizabeth Wick, Publications Chair  
Dawn Larsen, Executive Administrator  
Megan Borrer, Association Coordinator  
Chelsea Cameron, Administrative Assistant

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601 Wythe Street  
Alexandria, VA 22314-1994  
T: 703.684.2400  
F: 703.684.2492  
www.wef.org



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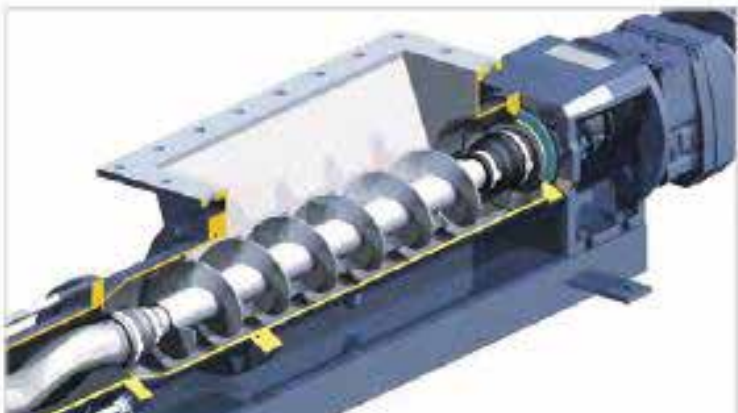
GPM range	Single Stage 0-50 PSI	Dual Stage 90-180 PSI
88	1B12G1L	2B12G1L
158	1B12G1L	2B12G1L
222	1F036G1L	2F036G1L
295	1F050G1L	2F050G1L
370	1Q050G1L	2Q050G1L
435	1Q090G1L	2Q090G1L
565	1H115G1L	2H115G1L
742	1J175G1L	2J175G1L

Dimensions

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	
1B12G1L	42	14	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
1F036G1L	42	14	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
1F050G1L	42	14	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
1Q050G1L	42	14	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
1Q090G1L	42	14	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
1H115G1L	42	14	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
1J175G1L	42	14	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12

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**A**s I type this piece, I'm still reeling from the amazing One Water Ohio conference that was held last week. What an awesome event and opportunity to celebrate what we do! I would like to extend my deepest gratitude to all the volunteers, exhibitors, sponsors, attendees, and-most notably-staff who contributed to this experience. I would also like to thank the City of Cincinnati for their hospitality. We are looking forward to continuing this momentum into Cleveland in 2022!



**Jason Tincu**  
OWEA President

So what does one type into a President's Message anyways? Heck, I'm not sure. Let's start with a little bit about me...

I'm the most fortunate college dropout in history. I moved back to Beavercreek from Oxford in 1997 after a failed attempt at getting a college education. After a stint at a vending machine company (much respect to those folks), I found a job posting as a Seasonal Building and Grounds (B&G) Maintenance Worker at the Eastern Regional Water Reclamation Facility. From day one, I knew this was my place and these were my people. For the next three years, I spent my time at Montgomery County being a sponge to every role and discipline onsite, eventually moving from B&G into Operations and landing my own shift at "the Rock" (aka Western Regional Water Reclamation Facility). The technical growth that I gained there was massive, leaving with my Class II certification.

After just over a year or so on my own (3rd) shift, my health and wellness took a dip. Pulling a 3rd shift schedule one week (60 hours of work) and then trying to act like a 1st shift human (20 hours of work) the following week each pay period forced me to look at other opportunities. In 2001, I started a new job at the City of Xenia as their Weekend Operator. Now working Wednesday through Sunday didn't exactly excite me, but it was better than working 3rd shift. While at Xenia I transitioned from the Weekend Operator, to Lead Operator, and low and behold (with some luck and my Class III in hand) into the Wastewater Treatment Supervisor spot in 2003. While in this role, I learned how a municipal government works, how to manage people, and how to operate and maintain wastewater treatment facilities. In 2007, I received my Class IV WW certification, my Class II W certification, an Associate's degree, and my Bachelor's degree in Management. In 2009, the City Manager offered me a larger role as Utilities Manager taking over both water and wastewater where I served until 2012.

As I sat at my office in Xenia, I was very happy about how far we had come. Although one thing was apparent, the fire was gone and I was ready for a new challenge. In 2012, I excitedly made the jump to the City of Dayton where I served as the Wastewater Treatment Administrator (deputy plant manager). Dayton was a great experience for me, larger facility, more employees, broader impact,

## Upcoming Executive Committee Meetings

September 14, 2021

November 9, 2021

January 11, 2022

*Jason Tincu is the Director of Sanitary Engineering for Greene County. He holds a Class IV Wastewater License and a Class II Water License. He has held a variety of positions within the water sector on both the municipal and consulting sides. He is a proud member of the Southwest Section of OWEA and is a long serving member of the Government Affairs Committee.*

# President's Message

and new opportunities. In 2013, the Plant Manager moved on and I was appointed Division Manager at the City of Dayton. Still reeling about my career pathway and the opportunities that lie ahead, I made the jump to the private sector in 2015 and started with Brown and Caldwell (BC) as an Operations Consultant.

At BC, I had the opportunity to evolve even more and delve into some (personally) uncharted waters while working on some of the coolest, most innovative projects in the Midwest and serving a great client down at Cincy MSD. After 3 years of running around the I-75, I-71, and I-70 corridors supporting our projects and clients while managing a very busy personal schedule, I realized that I was exhausting myself.

Which brings me to 2018. I came home to serve as the Director of Greene County Sanitary Engineering

Department (GCSED)—my hometown utility. At GCSED, we serve over 27,000 customers with water and wastewater services while offering County-wide, solid waste recycling services. We are making great strides at GCSED while having the most fun while doing it!

Takeaways through this journey:

- Learn to be a sponge (a life-long learner)
- Trust the process
- Embrace relationships
- Your career is NOT your life
- Find a mentor, and then be one over and over

I plan to share more visionary OWEA stuff in articles to come-but I thought this was a good place to start!

Best wishes, Jason

## Welcome New Members

April 2021 - June 2021

Audrey Atzel  
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Kelsey Heck  
Chris Helmer  
Coryn Hendrix  
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Sofie Iwamasa  
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### Doan Valley CSO Relief and Consolidation Sewer, Cleveland, Ohio

Working for the Northeast Ohio Regional Sewer District (NEORS), AECOM designed over 4,200 feet of 48" to 72" ID sewers installed using open cut and trenchless methods. This project reduces the number and total volume of combined sewage overflows to the Doan Creek in the City of Cleveland's Cultural Gardens. AECOM's design took full advantage of curved microtunneling methods, making it the first NEORS project bid with this method specified.



### Water Reclamation Facility Improvements, City of Upper Sandusky, Ohio

Upgrade of the existing wastewater treatment plant from being able to treat 4 MGD of wet weather flow to 10 MGD of wet weather flow, including new headworks, flow-through SBR, tertiary filters, UV disinfection, screw press, cascade aeration outfall, administration building, and influent piping rehabilitation. The wet weather process was online at the beginning of 2021 with the solids improvements expected to be completed Summer 2021.



### Blueprint Columbus – Overbrook/Chatham Area, Columbus, Ohio

As part of the Blueprint Columbus program focused on mitigating sanitary sewer overflows by removing I/I from the City's sanitary system through roof redirection, sump pumps, and lateral lining, AECOM designed approximately 2,600 LF of 12" to 18" storm sewer in the Clintonville neighborhood to capture this flow removed from the sanitary sewer. Surface storm water drainage from the street and roof downspouts was directed to 20 rain gardens installed in the right-of-way providing stormwater treatment of the surface runoff.



### New Water Treatment Plant, Marysville, Ohio

AECOM designed this new 7.5 MGD water treatment facility for the City of Marysville to replace their aging infrastructure. The new plant utilizes both surface and ground water sources and the treatment process targets a number of constituents including algal toxins, taste and odor, hardness, and disinfection byproducts. The core treatment processes include activated carbon and conventional pretreatment, lime and soda ash softening, recarbonation, ozonation, biologically active filtration, disinfection, and residuals management. The plant began construction in mid-2020 and has an anticipated startup date of late 2022.

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**Marty Davidson**  
(513) 609-1855



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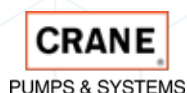
## SAPPHIRE



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What could bring close to 1,000 water and wastewater professionals together? One Water! The conference that almost didn't happen – DID. Intriguing tech sessions, fun networking events and the latest in product and services were enjoyed by all attendees. Awards were given, ideas were exchanged during technical sessions, connections were made and there was an abundance of handshakes and hugs. We are so grateful to our sponsors, exhibitors, and volunteers, along with all those who attended. Thank you for making One Water 2021 a success!

Not able to attend One Water 2021? Plan now for our One Water On-Demand Virtual Conference! This will let you experience some great technical sessions from the comfort of your home or office. More information on page 17.















# ne Water

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# 2021 Award Winners



**George Hintze Jr.**  
*City of Fremont*

## F.D. DEAN STEWART AWARD

George is Assistant Superintendent of Maintenance at Fremont Water Reclamation Center. He is a Class III operator with 31 years of experience in collection systems, plant operations and maintenance.

George is involved in the daily operations of the facility and regularly confers with operations staff on ways to solve issues and improve efficiency. George is spearheading implementation of a software program to improve maintenance and manage assets. He was involved in facility improvements that increased peak flow from 9 to 24 MGD and resulted in greater than 90% decrease in CSO volume.

George supervises five maintenance mechanics and is responsible for plant maintenance, 25 pump stations, and the City's flood control system. George keeps meticulous records. George also prepares the annual maintenance report for the flood control system for the Army Corps of Engineers. George is a true asset to the City of Fremont.



**Sharon Vaughn**  
*City of Dayton*

## J.W. ELLMS AWARD

Sharon Vaughn is the Plant Operations Supervisor at the City of Dayton Water Reclamation Facility. She has worked at the plant for 32+ years; and she has worked numerous positions since 1988. Sharon has a B.S. in Biology and an MBA degree from the University of Dayton. She has a Class III Wastewater Operator License, OWEA Industrial Pretreatment Inspector License, and an Ohio Water Pollution Control Association Class IV Wastewater Analyst License. Sharon has been an instructor for the WEF Pretreatment Training Courses; Chairperson of the SWOWEA Industrial Waste Committee, and a past Co-Chairperson of the OWEA Technical Conference.



**Scott Broski**  
*Northeast Ohio Regional Sewer District*

## F.H. WARING AWARD

Scott Broski serves as the Superintendent of Environmental Service for the Northeast Ohio Regional Sewer District where he has worked for the past 26 years. Scott worked as a lab assistant in Analytical Services, as investigator in Water Quality & Industrial Surveillance, as Supervisor of Enforcement (IPP Program) and as Manager in Water Quality and Industrial Surveillance.

He has been the "go to" person for any complex issues related to industrial pretreatment. Scott frequently presents on industrial control topics. He is the current Chair of the NES OWEA Industrial Wastes Committee- which organizes the largest annual event for the NE Section.

Scott is a member of Ohio EPA/OWEA Pretreatment Coordinators Workshop Committee which over the last 14 years, has planned and conducted numerous half-day Pretreatment Coordinator workshops.

Scott is a member of the NACWA Pretreatment and Pollution Prevention Committee and the 2014-15 recipient on the NES OWEA Pretreatment Award.



**Jon van Dommelen**  
*Ohio EPA*

## W.D. SHEETS AWARD

Jon has worked for Ohio EPA for over 27 years. He began as a plan reviewer in the Division of Environmental Financial Assistance. He eventually transferred to the Division of Surface Water, joining the Compliance Assistance Unit (CAU). Four years ago, he returned to DEFA with the CAU. He has worked in the CAU for a total of 21 years troubleshooting noncompliance at wastewater treatment plants ranging from 1,500 GPD package plants up to 15 MGD municipal plants. Jon has trained operators in process control of activated sludge, microbiology, biological nutrient removal, and other topics related to wastewater treatment. He has also presented at WEFTEC and at many OTCO and OWEA workshops, and numerous times, both in-person and virtually (COVID-19), for USEPA. He has authored articles for technical publications. Jon graduated from The Ohio State University with a BS in Civil Engineering and is a licensed Professional Engineer in Ohio.



**Betsy Sheerin**  
*Ohio EPA*

## L.T. "TOM" HAGGERTY AWARD

Betsy has been with Ohio EPA's Division of Surface Water, Central Office for over 8 years. She is the technical lead for Ohio EPA's statewide biosolids program. She is also the lead biosolids coordinator for three of the five Ohio EPA district offices (CDO, SEDO, SWDO). As the Agency's point of contact for the biosolids program, Betsy devotes much of her time to providing technical assistance navigating biosolids related issues to POTW operators, land application contractors, farmers, and other state agencies. She also provides information and guidance to citizens with questions and concerns associated with biosolids. Prior to joining Ohio EPA, Betsy worked in consulting in Tennessee. Betsy holds a B.S. in Environmental/Civil Engineering from Virginia Tech and is a licensed Professional Engineer in the State of Ohio.



**City of Toledo International  
Park Storage Basin**

## ENGINEERING EXCELLENCE AWARD

As part of the federally mandated Toledo Waterways Initiative, Jones & Henry Engineers provided engineering design for the International Park Storage Basin Project, a combined sewer overflow (CSO) storage facility with a capacity of 6.9 million gallons. The basin replaced two major CSOs that discharged into Maumee River, reducing overflows from 30 to three per year. Construction was completed in May 2019. The primary structure consists of a 5.20 MG, below-grade, reinforced concrete structure. Flows enter the basin via an 84-inch sewer and a 108-inch sewer, which provide 1.70 million gallons of storage. The proximity of the basin to upscale restaurants, a riverside park and private club, created communication and expectation challenges for the job site, which in the end, remains a new park-like setting with bike trail, parking, additional foliage — and improved concealed drainage for wet-weather. In 2019, the project was awarded ASCE-Toledo's project of the year.



**Indian Creek  
Wastewater Treatment  
Plant**

## ENGINEERING EXCELLENCE AWARD

The Indian Creek WWTP was constructed in 1935 by the Village of Cleves, OH, transferred to MSDGC in 1976, and expanded to 1.5 MGD average daily flow around 1995. By 2010, much of the equipment was nearing the end of its useful life, and MSDGC identified over 25 concerns related to safety, efficiency, and treatment performance.

Jacobs considered over 50 alternatives to address the concerns, with 19 selected as proposed improvements. The resulting design included various pumps, gates, second mechanical screen, dumpster station, mechanical grit classifier, center-column clarifier drives, effluent flow meter, floating decanters, and new Operations Building, among other items, with the highlight being conversion of Aeration Basin No. 2 to plug-flow regime with fine bubble aeration. The design was completed in September 2013. The project bid in December 2014, slightly below the Engineer's Estimate. Construction cost just under \$5 million and was substantially complete in December 2016.



**Michael Bowling**  
*City of Hamilton*

## PROFESSIONAL WASTEWATER OPERATIONS AWARD

Mike Bowling has been with the City of Hamilton's Water Reclamation Facility for 24 years. Mike started his career with the city in 1997 as a Compost Operator and was promoted to Operator II in 2007. Mike has an OPEA Wastewater Treatment II license.

Before joining the City of Hamilton, Mike worked in manufacturing and worked for the Butler County Environmental Services. Mike worked for the Butler County Environmental Services from 1994-1997.

Mike was proudly born and raised in the Hamilton area. In his spare time, Mike enjoys spending time with his wife and three children. His hobbies include golfing, tennis, visiting amusement parks, and attending sporting events.



**Thomas A.  
Zocolo Jr.**  
*City of Akron*

## LABORATORY ANALYST AWARD

Tom is a Laboratory Analyst II at Akron's Water Reclamation Facility. He holds a Bachelor of Science in Environmental & Conservation Biology from Kent State University. Tom is a Class I Wastewater Operator and a Class II Wastewater Laboratory Analyst.

Tom is co-chair of the OWEA Northeast Section Laboratory Analysts Committee and has worked closely with the State LAC Chair in holding 'hands on' training in preparation for Lab Certification examinations. Tom is an active young professional, contributes articles to Buckeye Bulletin, has participated in the NES Design Competition as a mentor and assists as a judge for section Science Fairs.

Tom has taken on the responsibility of educating plant operators on the value of regular microscopic evaluation of activated sludge in order to make more informed decisions regarding the treatment process. Tom is a committed analyst, is meticulous in his work, and consistently provides reliable defensible data.



# 2021 Award Winners



**Said W. AbouAbdallah, PE**  
*Arcadis*

## LIFETIME ENGINEERING AWARD

Mr. AbouAbdallah has worked for Arcadis for the past 36 years, starting as a construction inspector and quickly working his way up to design engineer, project manager, partner/shareholder, and vice president. He is one of Arcadis' most capable and respected managers and has led complex projects across Ohio.

Said has built an outstanding reputation of delivering projects on-time, on-budget, and with an exceptional level of quality. Clients routinely remark he is a true partner with them, not just a consultant. He has worked on a myriad of design projects, from piping networks to pump stations and treatment plants. Mr. AbouAbdallah's work has ranged from very small (<1 MGD) to large systems (>150 MGD).

Clients have noted that he has been a trusted advisor, managing difficult projects, all while maintaining the City's interests and citizens' wellbeing. Said always brings attention to detail and develops creative concepts and solutions for project challenges.



**Kenneth W. Ricker, PE**  
*ms consultants*

## LIFETIME ENGINEERING AWARD

Ken has spent his entire career working to protect and improve water quality in Ohio. After graduation from The Ohio State University with a Bachelor of Science in Civil Engineering in 1983, Ken spent seven years at the Ohio EPA. He has worked for ms consultants for 31 years assisting clients in planning, design, and construction of numerous drinking water, wastewater, and solid & hazardous waste projects.

Ken is exceptionally talented in formulating innovative solutions for complex civil works projects. He is currently serving as the Program Management Consultant lead, collaborating with Muskingum Watershed Conservancy District staff in implementing their Recreation Master Plan. Over \$130M in upgrades to infrastructure, campgrounds & marinas are now complete at eight MWCD lakes over a six year span. Many of the projects include wastewater collection and treatment improvements. The program has a list of remaining priority projects and current budget threshold of \$195M.



**Commissioners**  
**Jeff Benton, Barb Lewis, and Gary Merrell**  
*Delaware County*

## PUBLIC SERVICE AWARD

The Delaware County Commissioners have demonstrated significant commitment to the protection and advancement of the Regional Sewer District infrastructure. Delaware County has approximately 35,000 service accounts, or about 100,000 people that receive central sewer services. The County is growing at a very rapid pace and have increased by 1,200 new accounts per year over the past several years with 2021 already on pace to be higher than 2020 for new accounts.

The Commissioners provide their full support to the Regional Sewer District's management and operations of nine wastewater treatment plants, 30 pump stations, and 550 miles of sewer, which has a total wastewater treatment capacity of 18.59 MGD. The Commissioners commitment to providing effective wastewater collection and treatment is reflected through the development of the 2016 Master Plan. The \$150M originally outlined in the Master Plan is likely to be approximately \$200M by the time the program is complete.



**Ted Montecalvo**  
*City of Warren*

## COLLECTION SYSTEM AWARD

Ted is the Sewer Systems Superintendent at the City of Warren's Water Pollution Control Center having served there 34 years working his way from Laborer. Ted holds a Class I Wastewater Operator License and a Class II Wastewater Collection Operator License. As Superintendent, Ted is responsible for overseeing eight employees to perform the maintenance and operation of 195 miles of sanitary sewers, 138 miles of storm sewers, and 241 miles of ditches. Over the years, Ted has shown his passion for the industry with the excellent service he provides to the residents and businesses of Warren as evidenced by recurrent compliments from many in Warren. Under Ted's leadership, there have been significant improvements to the sanitary and storm collection systems because of his suggestions and ideas. Ted is a true professional, dedicated to service and this industry. Ted won the Northeast Section Collections Award in 2016.



**Lake County Department of Utilities -  
Wastewater Division**

## FACILITY IMAGE AWARD

Curb appeal is essential in real estate and for Lake County Department of Utilities.

LCDU has an annual program to enhance public and employee spaces at their facilities. Examples of this program include renovation of conference rooms, renovation of kitchens and lunchrooms, interior upgrades to the operators control room and the office areas. Building exteriors and landscaping are well maintained.

LCDU's mission is to improve the image of our industry and educate stakeholders by disseminating public information to increase customer engagement. Community outreach includes hosting multiple private tours for schools, senior centers, scouts, and environmental groups. LCDU uses Social Media, YouTube, traditional flyers/handouts, and educational programs at the schools. LCDU has seen significant growth in their social media reach over the past four years. Social media is used to promote events, send educational material and much more!

LCDU assists with repair and financing for homeowners damaged sewer laterals.



**Eastern Ohio Regional  
Wastewater Authority**

## FACILITY IMAGE AWARD

The Eastern Ohio Regional Wastewater Authority (EORWA) is a regional wastewater plant that serves four communities on the Ohio River, the Ohio Valley Malls at St. Clairsville on I-70, and areas between the malls and the Ohio River. A CMOM program was adopted with the help of the Rural Community Assistance Partnership (RCAP). Two large diameter force mains (18" and 20"), one major and two smaller lift stations have been replaced. In 2013 EORWA began discussions with quasar energy group to upgrade the anaerobic digestion facilities at the plant for receiving and processing biomass materials to produce additional methane gas for the production of electricity at the plant. EORWA owns 100% of the new resource recovery facility with quasar managing the biomass sourcing. With these current upgrades, they have rebranded their facility as a Water Resource Recovery Facility with a new logo on their egg-shaped digester.



**Robert M.  
Bonnett, P.E., BCEE**  
*Northeast Ohio Regional  
Sewer District*

## WEF WILLIAM D. HATFIELD AWARD

Robert M. Bonnett is currently the superintendent of the Northeast Ohio Regional Sewer District Easterly WWTP. He started his career as a Chemist in the Lab and over his career has held positions at all three NEORSD treatment plants and at NEORSD Engineering & Construction. This experience enabled Bob to contribute heavily to the design of hundreds of millions of dollars of improvements at the Easterly WWTP- for upgrades and expansion of treatment capacity from 200 to 400 MGD. Bob made sure the improvements were operator friendly!

Bob holds a Class IV Wastewater Treatment Operator License, is a professional engineer, Board Certified Environmental Engineer with Specialty in Water Supply and Wastewater, and has a Bachelor's of Science degree in Natural Resources from OSU and MSCE from CSU.

Bob has been a presenter at OWEA and WEFTEC. He also has taught the professional engineer review class in NE Ohio.



**Ted Baker**  
*Baker and Associates*

## WEF ARTHUR SIDNEY BEDELL AWARD

Mr. Ted Baker embodies the sentiment of extraordinary personal service to a Member Association. Ted served five years on the NESOWEA Executive Committee then moved through the positions of NE Delegate (four years) and OWEA Officers (four years) and recently finished his three-year term as OWEA WEF Delegate.

Ted has served in various roles such as OWEA Conference Co-Chair, OWEA Membership Committee Chair, WEF Budget Committee Chair, WEF MARC Committee member and most notably as OWEA Sponsorship Chair. As OWEA Sponsorship Chair Ted developed the backbone of what has become our sponsorship program and spent countless hours with OWEA sponsors and potential sponsors developing a program that has truly made OWEA's member services sustainable!

Ted served on multiple committees at the WEF level in his role as a delegate. Through all his interactions, Ted made it a priority to seek the best not only for WEF but also for OWEA!

# 2021 Award Winners



**Gregg Mitchell**  
City of Sidney

## WEF LABORATORY ANALYST EXCELLENCE AWARD

Gregg has been the Water Pollution Control Chemist at the City of Sidney WWTP for 19 years. Previous employers include the Lake County Public Works, Libertyville, Illinois and the City of Piqua WWTP. Gregg holds an Ohio Class III WWTP operator's license and Class II Wastewater Lab Analyst Certificate, and is a Crystal Crucible Award member. Gregg has a BS Environmental Biology from Eastern Illinois University. He is currently on the Lab Analysis Committee, has presented at LAC meetings, and coordinated quarterly meetings in Sidney. Gregg is responsible for NPDES sampling, analysis, and data entry. He also samples and analyzes for Sidney's industrial pretreatment program. Gregg produced a spreadsheet program to track IPP surcharge and compliance results and billing. In 2009, he coordinated the lab work portion of a Hazen and Sawyer planning study to determine plant upgrade options. This consisted of several thousand analyses over a three week period to determine the various fractions (total, suspended, dissolved, colloidal) of COD, CBOD, and nutrients in influent, primary effluent and final effluent flows. Gregg shares SOPs and knowledge with surrounding villages as they seek to conform with OEPA lab criteria requirements.



**Easterly Wastewater Treatment Plant**

## WEF GEORGE W. BURKE AWARD

The Easterly WWTP is a Class IV plant capable of providing complete treatment up to 400 MGD. The plant is in the City of Cleveland on a 105-acre site along the southern shore of Lake Erie and has been in existence for 100 years. Several combined sewers in the collection system collect and convey storm water runoff to the plant along with sanitary and industrial wastewater from 17 municipalities (approximately 333,000 residents). In 2020, the activated sludge plant provided complete treatment to 31.53 billion gallons of combined wastewater for an average daily flow rate of 86.14 MGD. Robert Bonnett, P.E. is the Plant Superintendent.

This is the second time the Easterly Wastewater Treatment Plant has won the George W. Burke award within the last three years. This achievement is largely attributed to the staff's hard work and dedication to continuously improve health and safety for its 73 employees. Having zero lost time accidents over the past 21 months, Easterly staff is very proud of this accomplishment.

## 2020 SAFETY AWARDS

### Collection System of the year

City of Columbus Sewer Maintenance Operations Center



### Safety Awards - Collections Safety Certificates

#### 1 -9 employees

City of Canal Winchester

#### 10 -20 employees

City of Columbus  
Surveillance Lab

#### >20 employees

City of Akron Sewer  
Maintenance

#### Collections

- City of Columbus, Pretreatment Group
- City of Columbus, Southwesterly Compost Facility
- City of Pataskala
- City of St. Marys
- Gary L. Kron Collections
- Stormwater Regulatory Compliance
- WWC (Waste Water Collection)

#### Treatment

- City of Akron WRF
- City of Canal Winchester
- City of Columbus, Jackson Pike Wastewater Treatment Plant
- City of Pataskala
- City of Wooster Water Resource Recovery Facility
- Gary L. Kron Wastewater Treatment Facilities
- Lake County Dept. of Utilities - Madison Wastewater District
- Little Miami
- Mill Creek Treatment Plant
- Polk Run
- Southerly Wastewater Treatment Center
- Sycamore Creek Treatment Plant
- Taylor Creek Treatment Plant
- Tri-Cities North Regional Wastewater Treatment Facility Veol
- Westerly Wastewater Treatment Center, N.E.O.R.S.D.

#### Life Member

The Water Environment Federation's WEF Life Membership is bestowed upon members who have been active for at least 35 years and have reached age 65.

Gregory A Otey  
Thomas A Fishbaugh  
Ronald S Volkerding  
Paul Usinowicz  
Kent S Bacon  
Timothy Clapper  
Cynthia Fort

### Safety Awards - Treatment

#### 1 -9 employees

City of St. Marys

#### 10 -20 employees

Muddy Creek Wastewater  
Treatment Plant

#### >20 employees

City of Columbus, Southerly  
Wastewater Treatment Plant

#### Quarter Century Operator

The Quarter Century Operator Club recognizes operators of wastewater treatment facilities for their service and dedication in a difficult and dangerous profession.

Dale Kocarek  
Stephen Elliott  
Jeff Lamson





**Mark Loria**  
Stantec

## NORTHEAST YOUNG PROFESSIONAL AWARD WINNER

The winner of the northeast section YP Award this year is Mark Loria. Mark Loria is an environmental engineer working for Stantec in Cleveland, OH. He received his undergraduate degree from Cornell University and his PhD from Case Western Reserve University in 2018 with a research focus on wastewater treatment using mixed algal-bacterial bioreactors. Mark has worked with Stantec for three years on wastewater treatment, water treatment, distribution, and conveyance system projects. He has experience with modeling of BNR processes and with evaluation of the microbial ecology of wastewater treatment bioreactors. Mark's paper is entitled "Microbiology and Process Modeling for Biological Phosphorus Removal". Mark presented an applied, contemporary overview of Enhanced Biological Phosphorus Removal (EBPR) processes and modeling tools used to evaluate potential applications.



**Joanna Brunner**  
Arcadis

## SOUTHWEST YOUNG PROFESSIONAL AWARD WINNER

Ms. Joanna Brunner, PE serves as a Senior Management Consultant in the business advisory service line for the water sector of Arcadis North America. Her expertise is focused on developing sustainable strategies and effective innovation programs at water and wastewater utilities. In this role, she empowers utilities to meet current and future water sector challenges by leading more creative and agile organizations. This is achieved through her experience in leading industry research in innovation management, strategic planning, and innovation program planning, development, and implementation. Ms. Brunner is currently helping lead the WRF 4907 Leading Water Utility Innovation project.

**Abstract Summary:** Drinking water and wastewater utilities face a wide array of challenges, including aging infrastructure, changing workforce dynamics, and affordability. These pressures along with new pressures, such as those experienced during the COVID-19 pandemic, are leading many utilities to reevaluate their organizations and seek innovative ideas. They recognize that to embrace change quickly they must provide a culture that supports innovation and manages new ideas as valuable resources.

The Northeast Ohio Regional Sewer District is one of those utilities. For decades, they have been providing progressive sewage and stormwater management to their community through innovation, fiscal responsibility and community partnerships. In 2018, they began engaging staff by gathering, evaluating, and rewarding their ideas. However, in every innovation journey there comes a time when an organization must take a step back and reassess their efforts. Recently, the District created a role, Manager of Innovation Programs, to drive innovation with intent throughout the organization. They also joined the WRF Leading Water and Wastewater Utility Innovation project (Project 4907), a team of 76 utility partners compiling global experience, effective approaches and tools to equip utility leaders to successfully create a culture of innovation.

The District is now applying these findings at their organization. They are assessing their innovation program, identifying expectations and success factors, developing plans for enhancement, and using a stealth (i.e., phased – incremental) relaunch approach. This stealth approach recruits a select few to refine program elements and develop early success stories. Early concepts, although small, limit complexity and communicate a clear benefit to the organization when successful, setting the foundation to create a culture that embraces change and adopts new ideas.



**Emily Tummons**  
Black & Veatch

## SOUTHEAST YOUNG PROFESSIONAL AWARD WINNER

Dr. Emily Tummons joined Black & Veatch in the Water Technology Group in 2016 after completing her PhD in Environmental Engineering from Michigan State University. She has designed and conducted water quality and corrosion studies for potable water treatment systems involving desktop, bench-scale, and pipe loop evaluations to optimize corrosion control treatment in the distribution system. Additionally, she has been involved in process optimization studies and regulatory reviews for municipal drinking water treatment facilities, which have included water quality modeling and bench-scale testing for the evaluation of alternative coagulants, polymers, oxidants, and adsorption media.

**Abstract Summary:** The EPA finalized revisions to the federal Lead and Copper Rule (LCR) that will become effective in December 2021 with an October 16, 2024 compliance date. One of the LCR revisions includes the need to evaluate orthophosphate as a corrosion inhibitor to identify optimal corrosion control treatment (CCT). The proposed rule notes that orthophosphate cannot be eliminated as a CCT based on the impacts of increased phosphorous loading on wastewater treatment like it could under the original LCR. In most cases the addition of orthophosphate is the most effective CCT for decreasing the solubility of lead and therefore a study might indicate that utilities need to consider changing their CCT to add orthophosphate. However, this change will increase the concentration of phosphorus in the wastewater, which is a critical parameter included in some NPDES permits that must be limited before being discharged into receiving bodies of water. Phosphorous is a source for eutrophication when introduced to receiving waters, which can lead to harmful algal blooms (HAB) and other water quality and environmental issues.

This presentation will highlight revisions to the LCR that will impact both drinking water treatment plants and wastewater treatment plants (WWTPs). It will use corrosion control study data to explain the concentrations of orthophosphate that could be expected in water sent to WWTPs based on different applied dosages for CCT. A discussion of strategies based on unique WWTP requirements will focus on cost-effective treatment processes to remove phosphorous based on modeling work and full-scale monitoring.

The District is now applying these findings at their organization. They are assessing their innovation program, identifying expectations and success factors, developing plans for enhancement, and using a stealth (i.e., phased – incremental) relaunch approach. This stealth approach recruits a select few to refine program elements and develop early success stories. Early concepts, although small, limit complexity and communicate a clear benefit to the organization when successful, setting the foundation to create a culture that embraces change and adopts new ideas.

## Greene County Sanitary Engineering Laboratory

by Lori Kyle

### Facility Name and Location:

Greene County Sanitary Engineering Laboratory,  
Beavercreek, Ohio

### Plant Description:

We are unique in the fact that we have four separate Wastewater Facilities, and three Water Treatment Plants. Our Wastewater plants are located in the following areas: Beavercreek, Sugarcreek, Cedarville and Clifton and our Water Treatment plants include the Northwest Regional Water Plant (North and South Plants) and Southwest Regional. In 2020 the water treatment plant produced over 2 billion gallons of drinking water. Our Wastewater stats are as follows:

### Beavercreek

The secondary treatment process utilizes two parallel secondary plants referred to as the “North Plant” and the “South Plant” to remove organics and nutrients via activated sludge basins and secondary clarifiers. To enhance the biological nutrient removal process aluminum sulfate (Alum) is used as a chemical supplement. Daily Design avg 8.5 MGD

### Sugarcreek

The plant is equipped with three Schreiber continuously sequencing reactor (CSR) processes. The CSR process is a continuous-flow activated sludge process which cycles between aerobic,



anoxic, and anaerobic conditions. During the aerobic phase, organics removal, nitrification, and enhanced biological phosphorus removal (EBPR) are achieved. The anoxic phase provides conditions for denitrification, and the anaerobic phase is required to select organisms for EBPR. Daily Design avg. 9.9 MGD.

## Cedarville

Biological treatment at the CWRRF is provided with an Oxidation Ditch system. There are two parallel Carrousel System oxidation ditches which provide nitrogen and ammonia reduction as well as biological phosphorus removal. Daily Design avg 0.56 MGD.

## Clifton:

This plant is an extended aeration plant and the daily design average is 30,000 gallons per day.

## How many analysts/technicians work in the laboratory?

We have three certified laboratory technicians and one Administrative Support Coordinator.

## Do you accept samples from outside sources?

Yes, we accept outside customers. Most customers who have their own well or are trying to sell their homes will ask for a Total Coliform and Ecoli presence absence test, which we can perform for them. Customers will also bring samples in to monitor Public Water Systems, that either require Total Coliform and Ecoli presence, absence or Nitrate and Nitrite.





# Lab Profile

## What analysis do you perform?

CBOD, TSS, TDS, Ammonia, TKN, COD, Total Phosphorus, Fluoride, Nitrate, Nitrite, Nitrate/Nitrite combined, Total Coliform, EColi, MLSS, MLVSS, Total Solids, Total Hardness, Chlorine, and pH.

## Other duties your laboratory is responsible for?

Our lab is also responsible for the Industrial Pretreatment Program, sampling for our Local Limits, monthly river sampling at six sites, Priority Pollutants and Toxicity Sampling, and Fluoride testing daily for our Water Plants. We also will assist with the Lead and Copper program and perform monthly compliance testing (Total Coliform and Ecoli presence, absence) for our Water Plants. We calibrate and check all chlorine meters quarterly for our Water

Plant Division. We maintain and troubleshoot all laboratory equipment. We also report all compliance data using the OP 10 program and enter data to the Ohio Ebiz website.

## Do you use a contract laboratory?

Yes, we use three different contract laboratories.

## Do you have any permitted industries?

Yes, we have five sites.

## Have you assisted with any pilot studies or uncommon testing?

We have assisted with Plant Characterization Study (most recently 2020) and are currently participating in Influent monitoring for gene fragments of SARS-CoV-2 with The Ohio State University



## Is there anything else we should know about your Laboratory?

We are very proud of our Laboratory and our customer service to Greene County. We are excited for the future of our Laboratory under the leadership of Mark Chandler (Deputy Director) and Jason Tincu (Director). We are looking forward to acquiring new instrumentation to enhance our capabilities for our Wastewater and Water divisions, as well as the residents of Greene County Ohio.



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## Sustainability in the Workplace

by Gary Fedak, PE. Director of Operations, Lake County Department of Utilities and Paul Fletcher. Project Engineer, Jones & Henry Engineers

Sustainability can be viewed from a completely different perspective that does not involve energy savings or water consumption. Sustainability can be used as a principle for human resource management. On the one hand it fosters conditions for individual employee sustainability and develops the ability to continuously attract, regenerate and develop motivated and engaged employees whilst also contributing to the sustainability of the business organizations through cooperation with the top management, key stakeholders and by realizing the sustainability goals of the organization.

This article will focus on sustainability as it relates to human resources, succession planning and preparing the next group of employees within the workplace. With the potential of various utilities facing projected high employee retirement, a concise replacement plan needs to be implemented by the employer. This article will touch on some of the components that comprise best practices of an employee succession plan.

The employee demographics of a utility are comprised of various talented staff members ranging from plant operators, lab technicians, maintenance workers, engineers, inspectors and other technical specialists to middle and

senior management. A number of these employees were hired over two decades ago to launch capital improvement projects and plant expansions. With some of this staff now eligible for retirement, employers are utilizing a variety of strategies related to new employee onboarding and existing employee workforce development.

### Workforce Development

The creation of a sustainable workforce is a concept that few firms have truly embraced. Typically, short term goals prevail, and not enough attention has been paid to



*Workforce Development*

This is a series of articles on sustainability in our industry. It serves as an introduction to the subject and to a Sustainability Committee formed by OWEA. Subsequent articles in the series will cover each of the individual topics in more detail.

For more information about the Sustainability Committee, or if you would like to become a member, contact Paul Fletcher at [pletcher@jheng.com](mailto:pletcher@jheng.com).





people. The workforce development initiative focuses on the growth of current employees within the utility. The key aspects of the program include positioning them as mentors to other employees, and preparing them for additional responsibilities/success as in their current role. In turn, this can lead to a larger potential group of future leaders and upper-level managers. When hiring for senior positions, it often makes more sense to hire internally, as those candidates are already familiar with the organization's culture and practices, than to seek external candidates. The workforce development program can be implemented in a variety of ways, but some techniques include professional development plans tailored to the individual employees, cross training (rotating assignments) within the organization, skill gap proficiency assessments and leadership training.

According to a report from the Society for Human Resource Management, over half of executives believe it takes six months or more to achieve full impact in a new role. Internal hires often need less time to get up to speed than external hires, simply because they already possess familiarity with clients and company practices.

To mitigate the risk of talent exiting an organization, there should be processes in place to create a formalized process for coaching, mentoring and training entry-level employees to prepare them to take on greater responsibilities over the course of their career. Not only do these processes improve the efficiency of the recruitment pipeline, but also the effectiveness of external hiring strategy.

## Succession Planning

The second part of workplace employee sustainability and succession planning targets new employees. Once employees have been recruited, there is a need to invest in an onboarding program and intensive coaching. Top talent is more likely to be drawn to your organization if they see the potential for personal and professional growth.

These programs typically encompass the hiring, orientation and integration of new staff into the organization. This focuses on the near term and long-term success of the new employee. From a recruitment perspective, some utilities are adjusting their hiring schedule to coincide with the graduation of high school students and college graduates. New hire orientation is evolving into advanced planning assignments pertaining to the first six months of employment. This approach assists with communicating overall company objectives, goals and expectations. Another opportunity to create connections between the new employees and current staff involves group networking sessions to help the employee understand the internal nuances of the utility.

How can you effectively keep your employees on board? Salary does have an impact on employee retention, but its impact is limited. Factors such as appreciation, challenges, work atmosphere and flexibility are far more important. These factors influence how engaged and committed employees are and make them want to stay with their employer and in developing a climate in which the managers are more approachable. Techniques such as these prove to be an effective way to prepare the next generation of water professionals, while continuing the



*Succession Planning*

long-term success of the company.

In short, when employees feel that an organization is doing everything it can to help them work well and values their contribution, this leads to employees doing their best and means that they don't go looking for another job as soon as the opportunity arises.

A study of Wal Mart's Sam's Club and Costco demonstrated that a business strategy that centers on the creation of a sustainable and highly engaged workforce significantly outperforms one that focuses on cost minimization. Costco outperforms handsomely in terms of staff productivity and staff turnover cost. Here the premise is simple: Focus on your people in terms of reward, recognition and responsibility and superior customer service and spend will follow.

## Workplace Environment

Studies showing companies wanting to modify their work environments with an eye on the future tend to move away from dedicated offices and workstations and make the office into more of a collaboration center, the 'living room' of the company. The term office, as we know it – the primary place where employees perform their work duties – will become obsolete in the future. The need to create spaces to foster interaction will ultimately convert the office into a building that offers a variety of different spaces customized to meet specific needs, and options to facilitate discussion and decision-making.

Research shows workspace is, on average, empty between 50 and 60 percent of the time; however, a flexible workspace that allows for cost-efficient modifications, easy reconfigurations, and multi-functional capabilities can maximize real estate usage, create savings, and reduce the risks of space dependency. Workspace flexibility also frees up space for the amenities younger workers like to see, such as day care facilities, and quiet zones: perks that Gen Xers may have created, but all generations can appreciate.



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## A Chat with OWEA President Jason Tincu

Interview by Megan Borrer

**STAFF:** What do you like to do in your free time?

**TINCU:** I like to do mindless labor. Things that don't take any thought and just allow my brain to wander. So, I do a lot of home projects. I love to paint, both interior and exterior. I think I've painted our house in full, twice since we've been there in the last two years. I like to have mindless labor to let my mind kind of do its own thing. And I like to enjoy good food and beverages.

**STAFF:** What qualities do you think make a good leader?

**TINCU:** I think patience has got to be a top one for me. Leaders can't get frazzled. You have to be patient. Perspective is a lot. I mean, I think to be a leader, you must have had to travel a long, diverse pathway to lead. You've seen failures, you've seen success, you've seen strife. One thing that I'm getting into quite a bit now is stoicism and a lot of that is predicated on the concept that the obstacle is the way. Meaning, as we travel through life and experience strife and failure, and also some success, that gives us perspective and allows us to be wise moving forward. So, I think communication is key as well. To be an effective leader you must be able to communicate. That doesn't mean just communicate in one style or in your style. You have to adjust your communication approaches to the



**Jason Tincu**  
(tin•ku)

audience, or to the person you're dealing with. Understanding what motivates people, where they came from, what their pathway was, and you need to adjust your communication approach accordingly.

**STAFF:** Who has helped mentor you and how have they helped you build your career?

**TINCU:** One of the biggest mentors that I've had in my career was acknowledged with his 5S shovel last week, and that's Dan Leavitt.

He's now retired, but he did time at Fairborn, Xenia, and London and that was more so on the wastewater treatment plant and process optimization, process control, technical stuff. Dan has been a huge, huge mentor of mine. One of my current mentors, and I say she is more of a 'life mentor,' is my fiancé. I had moved, and I had this freak thing happen. The active head coach of the Seattle Storm, Dan Hughes, moved in right next to me. And just really a storied career and a stoic man that has just had this amazing career and amazing life. And he and I built a pretty strong bond over the last couple of years. He's actually over in Tokyo right now preparing for the semifinals or quarterfinals. He's the assistant Olympic head coach for the US Women's. But I've had so many mentors in my life. I mean, my parents, obviously a significant segment of the family there at Southwest and OWEA. I mean, I think when you're open to

## Fireside Chats

The Fireside Chats is a series for the Buckeye Bulletin focusing on leaders in the industry. The Question and Answer Feature will dig into their leadership role and how it has had an impact on the industry. We will be focusing on leaders from OWEA to Plant Superintendents and every leader in between. Please nominate your boss, coworker, or someone you admire for a future article by emailing Megan Borrer at: [megan@ohiowea.org](mailto:megan@ohiowea.org).



learning from people, you can pick up, and so many people can serve as little individual mentors of different facets of your life. And you just have to be willing to see the value in the conversation and relationship.

I would say that those two have had a huge impact. Yesterday I lost the founder of the basketball program that I started with when I was young, Terry Henley. He was a huge mentor in my life early on, and actually he passed recently.

**STAFF:** What would you say is your biggest professional accomplishment?

**TINCUCU:** The hundreds of professionals that I've helped and advanced. I spoke about it at conference and a life of service is a life of success. And I think early on in your career, you're hungry, I think you want to advance. You see a lot of competition and that kind of drives you. But now looking back, I think I spent almost 15 years teaching the Operator Education Day for the Southwest Section, the advanced class, and in that time frame, seeing all the people that I helped prepare for certification exams and advancements. I went to present at the conference, the room was packed, and I had a personal connection with probably 60% of the crowd that was in my technical session. Many of those I've mentored throughout their career. I think watching other people grow and advance is the most rewarding thing that I've ever done in my career.

**STAFF:** What advice do you have for young people interested in this industry?

**TINCUCU:** I say it all the time to our new folks is just to be a sponge. Don't get caught up in your box, whether that's your position description or you're in a role at the table of organization. Try to absorb as much as you can from all those disciplines around you. That adds value to you in your specific role, but it also gives you perspective about what opportunities are out there and how all the pieces of the puzzle come together. I think that anytime I get a chance within my staff, I mean, we've got 85 employees here, and I've got about 20 management reps, is, our managers and supervisors usually get stuck in their box. And anytime I

get a chance to give them perspective about how, either their piece fits into the broader scheme of the organization, or how the other pieces, their other colleagues here at Green County, what their roles are and how that plays, I think it's very important. So, just being a sponge. And then obviously, learning how to work with people who think and talk and act differently than you. I think society nowadays is so polarizing with this cancel culture and the effects of social media, 'ghosting' people. I think we have got to learn how to work with people and work alongside people who think, act, and believe differently than we do. I think that's very important. I've had the opportunity to work within a number of different organizations that lean politically different ways and socially different ways. And it forced me to just figure out how to accept everybody and just navigate it for the broader success of the organization.

**STAFF:** If you could change one thing about this industry, what would you change?

**TINCUCU:** Nothing. Nothing at all, nope.

**STAFF:** You have an interesting perspective since you've been on both sides as both a consultant and an operator. How do you think that's influenced you?

**TINCUCU:** I definitely think that a diverse experience and diverse background helps you put the pieces together. My time in the private sector has exposed me to some of the opportunities and challenges – and how all the pieces of this giant puzzle fit together. It definitely added some strategic value now that I'm back on the public side and understanding the internals of the private sector and how some of those thoughts, and programs, and overheads fit in to the puzzle here. But I don't regret at all the moves that I've made career-wise. I think they've once again added to the value of me professionally and my experience and perspective. And once again, everything hasn't been a success, so the obstacle is the way. I think that's very important.

**STAFF:** You're involved in Water Week in DC. Not everyone knows what that is, so if you could describe that to someone that's not familiar with it, and then let us know

what your goals are with that initiative.

**TINCUCU:** Once a year, absent of obviously the pandemic, we make a trip to Washington DC to have conversations with our elected officials. What we do is, we try to introduce ourselves and introduce the organization, make sure they fully understand who we represent and what our mission is. We try to leverage support for investments in water infrastructure. And then lastly, what we do is we offer ourselves up to that elected official in their office, so that it's a two-way relationship. A lot of times, organizations will go to DC with their palms up and ready to get a peck for money. That's not necessarily our mission. We don't think that's a fair offering. We offer our technical expertise, we offer our time, we offer staff support, or anything that may come up in their regulatory activities that they need to ask us a question. And in turn, most times we have our marching orders from what our ask could and should be. But once again, it's a good opportunity to build a partnership with those folks who directly represent us as US citizens and Ohioans, and kind of tout some of the things that we're doing from an industry perspective. I made some great relationships and had some great experiences. Definitely one highlight was a couple of years ago, we got to give Senator Brown, the Public Service Award from OWEA in the Capitol building at his morning coffee. It was a very good experience.

**STAFF:** What are your goals as the OWEA president?



*Jason Tincuc and Fred Smith presenting Sherrod Brown the 2018 Public Service Award.*

**TINCUCU:** I think one thing that I might focus on is trying to figure out what the post-COVID world is like for our membership. A lot of the world has been turned upside down and on its head. You see it in how people are eating differently, how people are shopping differently, how people are socializing differently. It would be naive for us to think that our membership is going to act the same way it did pre-COVID, post-COVID. So I think I'm trying to co-membership. We're looking at doing a member survey on what their professional worlds look like after the pandemic. And then, getting back and doing some listening sessions on what products and market opportunities are out there for OWEA to possibly pivot relative to the post-COVID world. I know I said at the business meeting, 'everybody likes their coffee differently.' I think we as an organization need to realize there's some facets of our membership that would prefer not to ever do another in person and would like virtual offerings. They still want to be a part of OWEA, but they're perfectly fine sitting in the break room or sitting in their office at work and consuming OWEA content, just not in person. I think understanding what the membership post-COVID looks like, and figuring out what products we want to put on the market. Obviously it's going to go by fast, the presidency. If we can figure out what the membership wants to see in a post-COVID world, that'll be very important for us moving forward. Other than that, just reinforcing our foundation. Members are everything, so keeping our membership numbers up, working through and making sure we have plenty of available contact hours for our members, and just being a resource for all of our members.

**STAFF:** What do you want the general membership to know about you as their new president?

**TINCUCU:** I am them. I mean, I am a slice of them. I've touched almost every facet of our operation. If you look over my career, I started as a seasonal grass cutter, janitor supply, seasonal worker, and worked my way up. I've done everything from cleaning toilets at the wastewater plant, to cut grass, stock janitorial supply, all the way up to designing buildings and managing some of the state's largest facilities. Know that I represent all facets of our membership from



public to private, from labor, all the way through plant manager, and I'm here for them. I represent all of those disciplines and I guess that's what I'd like for them to know.

**STAFF:** Where would you like to see OWEA in ten years?

**TINCUCU:** Just resilient. I mean, I don't think there's any massive growth plans. We need to focus on quality, not necessarily quantity. I wanted to be a resolute, resilient, impactful organization that's doing good things for the industry.

**STAFF:** You're coming in as president at the start of our annual One Water joint conferences. Are you excited for this tradition to continue? What do you hope that everyone gets out of it?

**TINCUCU:** So very excited to be coming in on the front end of the One Water series. After experiencing the conference recently, there's a lot of great energy in our industry. I gave more hugs—and now that the delta variant has bearing on society, I wonder if maybe shouldn't have given that many hugs—but I'm excited about where our industry is. I think there's a lot of good energy. The synergies between water and wastewater are apparent. A number of different organizations across the nation take advantage of similar situations. I think it makes for a better conference. I think it brings us together where we usually stay in our little islands. I think a little bit of awkwardness is a good thing at times. Bringing us together and forcing us to sit at the same table, and talk about synergies, and challenges, and opportunities is a good thing. Then obviously the One Water model really takes a significant burden off of our private sector folks because they don't have to duplicate efforts and duplicate resources to touch base with all of the water industry across the state. So that's something we need to be mindful of. A lot of the folks in the public side don't understand that but those are fees that end up coming from our pockets. We make the private sector folks come to the table twice. It's a significant chunk of change for them and it does get sourced from our fees when we contract with them. I think it's just a smarter, more efficient, more value-added opportunity to bring both organizations together.

**STAFF:** Is there anything else you would like to share with the membership?

**TINCUCU:** The things that I'm going to focus on is the value in a service-based career. A lot of times we lose focus on what we're truly here for, and to boil those down, that's environmental protection, that's provide community service, and that's to serve as a baseline for economic development. If you really look at what we do and why we do it, those are the three global things that we're here to do and I think we really need to focus more on those three things. We don't look at the environmental advancement that we've done, environmental protection that we've done and the gains that we've made. I made the analogy of, we've been treating for phosphorus on the Little Miami River now for over 20 years. 20 years ago, I was the biggest opponent of having to do that because that's what you did. You fought against new regulation. Now fast forward 20 years and the Little Miami River is in some of the best shape that it's ever been right now and it's because of conservation along the main stem, continued treatment of phosphorus over the last 20 years, so the chemistry, the bugs, the fish are in better shape than they've ever been. That's a testament to the work that we're doing at the plants, and things of that nature. I think focusing on why we're here. We're here to protect the environment. To provide community service and to provide for a baseline for economic development for our community. I think the service component of what we do, if we continue to focus on the services that we deliver, I think that's very important.

One other topic that that concerns me, it keeps me awake at night from my paid job, is finding replacements for all of us. Definitely recruiting and retaining workforce development. How are we going to get the future of the industry in the seats with the certifications? And understand that this is an amazing way to live your life, and an amazing industry to do it in? Finding our replacements may prove out to be our biggest challenge and opportunity moving forward.

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## Troubleshooting from a Distance: The CAU Adapts to Virtual Site Visits



by Jon van Dommelen, Andy Gall, and Nick Hammer, Ohio EPA

Ohio EPA's Compliance Assistance Unit (CAU) is a field unit that travels to wastewater treatment plants (WWTP) and helps operators solve noncompliance problems on-site. The CAU understands the necessity of being on-site. We get to interact with the operators, we use our sight, hearing, and nose as necessary inputs to problem solving, as well as the immediate chemical and physical tests that we also conduct. All of this testing leads to questions, often arising somewhat spontaneously as we talk with the operators or perform the tests upstream of the effluent, on the different treatment processes. As they say, one thing leads to another and another and so on.

During the pandemic, field visits were not possible so we had to rethink how to assist operators from a distance - sometimes hundreds of miles between our home offices and the wastewater treatment plants that requested our assistance. Suddenly, we no longer had sight, odor, or audio inputs to supplement our chemical testing. The chemical and physical process control testing that we would normally perform during site visits was also not possible. We had to rely on the WWTP staff to perform process control tests. However, most operators of small treatment systems do not perform the process control tests that we use, or they send their effluent testing to contract labs for their NPDES results. That is a problem because if the only testing that is being done is on the effluent, then it is too late to do anything about any noncompliance should the result be outside of their permit limits.

So, working from home for the CAU was akin to flying blind from a tried-and-true method of troubleshooting

that has been the hallmark of solving noncompliance. We had to reevaluate how to obtain the data that the CAU relies upon for decision making. In addition, many of the WWTPs do not have the process control equipment that the CAU brings to the site visit and therefore would need to purchase equipment to obtain this data. How were we going to get operators to try something different or perform tests needed to get that piece of important data? In most instances, the CAU worked over the phone, via text, or through email to conduct the tests using equipment the WWTP had available. It was definitely a challenge. Here are three success stories of how the CAU was able to assist WWTPs remotely.

### Andy's Project:

In July 2020, Andy Gall was asked to assist a municipality that had received a high strength slug discharge from an industrial user which resulted in a major upset to the municipal WWTP. The operator of the plant reported that the dissolved oxygen (DO) levels in their aeration tanks dropped to almost zero and the water was a dark grey color instead of the normal light brown. The settling in the clarifier was poor and the final effluent quality had degraded and was negatively impacting the stream. The facility worked with NEDO staff on a plan to install aerators in the stream to minimize the impact to aquatic life in the stream from the poor-quality effluent, while the CAU team got to work aiding the operators with plant recovery.

CAU provided assistance over the phone and via email and text messages and online satellite photos of the facility. The facility was familiar with how to use a



settleometer and found a process control centrifuge on the shelf in their lab. Over the phone, CAU staff gave the operators a crash course on how to use the tools to begin collecting data. Additionally, district office staff were able to deliver a portable DO meter from their tool library to the facility so that the operators could take in-tank DO readings.

Together, CAU and the operators came up with a plan to isolate one of their aeration trains from the incoming plant flow. All of the incoming wastewater was directed to the second train, while the aeration rate to the isolated train was maximized. Over a period of several days, the isolated tank recovered and slowly turned from a black color to a brown color and the DO increased. At this point, the influent flow was diverted to the recovered train and the second aeration train was isolated with the goal of recovering it. After several days of isolated aeration, the second train also recovered and began to maintain a positive DO and started providing treatment to the incoming wastewater.



*Figure 1: Isolated tank with low DO wastewater on the left and a partially recovered tank on the right*

CAU's work was not done yet. The facility's operators continued to use the process control centrifuge and settleometer to collect data on the plant's recovery. The

data they collected showed that the plant was carrying a high amount of mass in each of the aeration tanks as a result of the high-strength slug loads it had received. With the warm weather of summer, the biology was active and mass in the aeration tank increased quickly. Keeping the plant aerobic proved difficult with so much mass in the system. The collected process control data guided the decision to begin heavily wasting solids from the system. A sludge hauling contractor was brought in to haul out more than 100,000 gallons of sludge from the aerobic digesters and sludge holding tanks while the operators ran their belt filter press to dewater as much sludge as possible. Conditions in the aeration tanks continued to improve as a result of removing sludge from the plant.



*Figure 2 & 3: Process control centrifuge tubes showing high solids in aeration tanks with spin values of 10, 15 and 20. Typical aeration tank spins are 2-4.*



*Figure 4: Sample of slug discharge that the municipality received*

Over the course of the next six months, there were several more slug discharge events that impacted the plant. CAU staff and the operators were in regular contact during this period. The facility operators continued to collect data on plant conditions using the process control tools and shared it with CAU staff, who helped interpret the data and used it to suggest operational adjustments. While there was an initial learning curve, CAU staff were able to adapt and successfully work collaboratively with operators and continue to provide compliance assistance to them remotely during the summer of 2020.

## Nick's Project:

In mid-summer 2020, Nick Hammer was contacted by the operator for a small restaurant in southeast Ohio regarding non-compliance with their NPDES permit for ammonia. The restaurant is served by a small (<1,500 gpd) package plant but since the dining room had been closed, and the restaurant was only offering take out services, the flows that the WWTP were receiving were less than 200 gpd. Since CAU had not visited the site in the past, the operator was able to provide several pictures and videos to provide a better understanding of the system. The operator had relayed to the CAU staff that the plant has been in noncompliance with the WWTP's ammonia limit. The picture below was one of the many pictures

the operator was able to send through text message to the CAU showing a portion of the aeration basin and the clarifier.

CAU staff was in daily contact with the operator to collect process control data and help determine the possible cause of noncompliance. The operator did have access to some of the process control tools that the CAU utilizes while on-site: dissolved oxygen meter, alkalinity test kit, and a settleometer. The picture below shows the settleometer that the operator was able to run to determine settling capability and to provide an idea to the CAU on the amount of mass (bacteria) in the aeration basin.



*Figure 5: Note the turbid settleometer, indicating incomplete conversion*



*Figure 5: Portion of the package plant that served a restaurant*

After many calls, texts, and emails, the CAU determined that additional mass was needed in the aeration basin to convert the influent ammonia to nitrate. The contract operator seeded the plant with sludge from a nearby village and the analysis by the lab showed an improvement in nitrification.

## Jon's Project

Jon van Dommelen's success story involves a six MGD system in the northeast part of Ohio. This is a big wastewater treatment plant that had undergone a massive upgrade from an extended aeration treatment plant to a



biological nutrient removal treatment plant. The system was designed to biologically remove phosphorus, but during the first year of operation the total phosphorus compliance was nearly random.

In mid-February 2020, the superintendent called Jon to see if he could help. When Jon arrived, he explained how phosphorus is removed biologically, and why the system was not working reliably. The main issue was that there was not enough soluble cBOD<sub>5</sub> in the influent to stress the phosphorus accumulating organisms (PAOs) into releasing the orthophosphate, the dissolved form of phosphorus. Since the WWTP's structure was already constructed, Jon suggested an alternate method to get the bacteria to do what they needed to do. This method was perfected at a WWTP in the southwest district and had been working well for several years. Jon suggested cycling the anaerobic and anoxic mixers ON and OFF strategically. When the mixers were OFF for 2.5 – 3.0 hours, the biomass would begin to settle in the tank. After any dissolved oxygen was consumed by the settling aerobic bacteria, the denitrifying bacteria could then begin to denitrify any

nitrate that was in the anaerobic zone. When the nitrate was denitrified in the settled sludge blanket, then the tank contents were truly anaerobic and the PAOs would begin to release orthophosphate. Then, when the mixed liquor and the released orthophosphate entered the aeration tank, the PAOs would take up the orthophosphate and even an excess of orthophosphate. During sludge wasting, the now organically bound phosphorus would leave the treatment system and the total phosphorus of the system was reduced enough to meet permit.

But before the plan was implemented, field work restrictions were put in place, requiring that Jon implement the changes almost entirely by phone conversations, text messaging, and emails with the superintendent and the lab technician. There were no timers on the mixers, but the WWTP was staffed 24 hours per day, so the superintendent had the first, second, and third shift operators manually turn the mixers off for the specified time and then back on again. Once the treatment plan was implemented, the WWTP consistently met their total phosphorus limit. The proper environments in the sludge blankets enabled the bacteria to do what we want and need them to do.

The CAU was quite busy during the pandemic. Operators continued to work at their jobs at the WWTPs, as did the bacteria. But at times, the bacteria were obstinate and refused to work under conditions that were not conducive to their performance. Although the efficiency of the CAU was likely down a bit, we found a way to continue to provide much-needed assistance to the operators we work with.

*Jon van Dommelen, Andy Gall, and Nick Hammer are the Ohio EPA Compliance Assistance Unit. They travel anywhere in Ohio helping operators of WWTPs maintain compliance and return to compliance with their NPDES permits using cheap, easy, and effective process control methods.*



Figure 6: View of one of the anoxic zones with denitrified sludge floating on the surface



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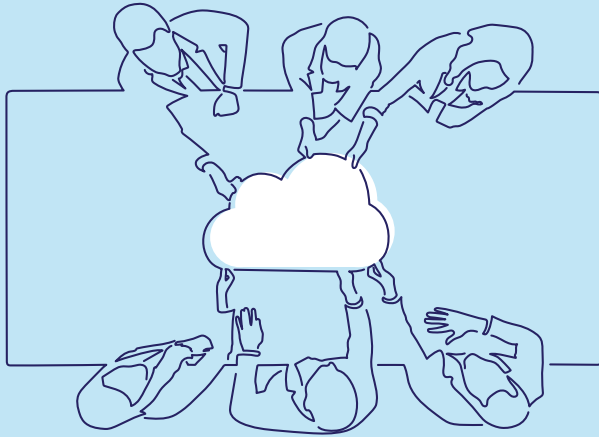
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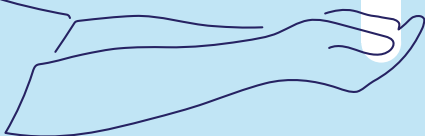
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# City of Lima CSO Improvements

by Emily Kerber, City of Lima

## Introduction

Being first can be a daunting task. However, being first also affords opportunities for creative solutions. That is where the City of Lima found itself in 2014 when the USEPA, US Department of Justice and State of Ohio approved the City's consent decree requiring the City to increase wastewater treatment capacity, construct wet weather storage and other sewerage improvements aimed at addressing combined sewer overflows (CSOs) into the Ottawa River. The integrated planning process allowed the City to evaluate the financial constraints and to develop a schedule for implementing the required collection and treatment infrastructure improvements.

The City of Lima operates a combined sewer collection system. Lima has five main river structures and fourteen smaller outlet points that allow combined sewer overflows (CSO) to discharge into the Ottawa River during wet weather events. Historically, the collection system would have anywhere from forty to 50+ CSOs per year.

Lima's consent decree utilized integrated planning to determine a comprehensive approach to reduce the number of CSOs to five events per year. Integrated planning

is a holistic approach looking at the entire collection system and the wastewater treatment plant (WWTP), determining what capital improvements could be implemented to reach EPA's established goal of no more than five CSOs per year. Integrated planning also allowed Lima to consider financial feasibility to complete the upgrades and stretched the mandated projects out through 2038.

The integrated planning schedule worked from the lower end of the collection system at the WWTP and back upstream into the collection system. Starting at the WWTP, the early stage improvements identified by integrated planning included upgrades to the WWTP as well as installing a 13 million gallon CSO Storage Basin.

## Headworks Upgrade

To address the need for additional treatment capacity as identified in the consent decree, the WWTP's headworks were upgraded. Lima's WWTP used to have a max capacity of 53 MGD. An evaluation of the plant indicated that operational changes could be made to develop additional capacity using existing treatment processes.

The headworks of the WWTP were determined to be the pinch point in the treatment processes, since the headworks would need to be able to handle the projected 70 MGD. The required improvements to the headworks allowed the WWTP's capacity to be expanded to 70 MGD during peak wet weather. Lima installed new screens (4 screens at 17.5MGD each), aerated grit chambers (4 chambers with 17.5 MGD capacity each), and replaced four of the seven primary tanks with larger clarifiers (~530million gallons volume).

## WWTP Operational Strategy

With these upgrades came a new operational strategy at the WWTP: operating within one of three different modes depending on the flow to the plant.

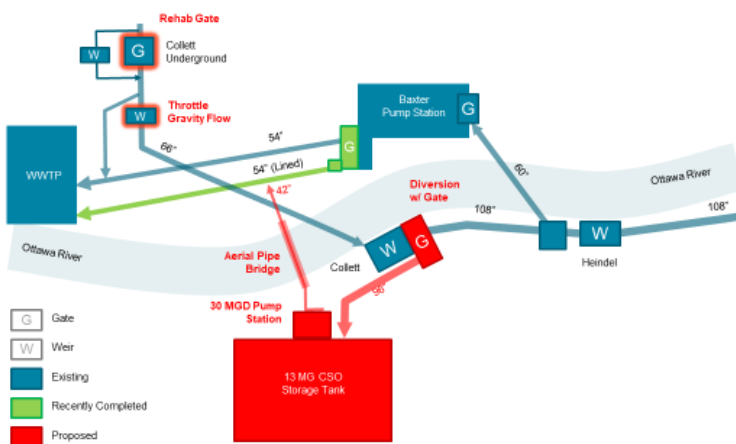


Figure 1: Shows two of Lima's River CSO structures, one of the underground structures, the CSO Basin, Baxter Pump Station, and the WWTP. (Stantec)





PHOTO 1: Aerial View of Lima WWTP

The first mode of operation is dry weather mode, which will capture and treat flow up to 30 MGD. In this mode, all flow goes through tertiary treatment (primary settling, aeration, final clarifiers, nitrification towers, chlorine and dechlorination (when required)). At times when influent flow is below 17 MGD, the nitrification towers are seeded with flow directly from the primary clarifiers. This promotes growth of the biofilm on the nitrification towers which are utilized differently in the wet weather and peak wet weather modes.

The second mode of operation is wet weather mode. This treatment process is used to capture flows ranging from 30 to 40 MGD. In this mode the first 30 MGD receives the same tertiary treatment described previously, but flows exceeding 30 MGD are diverted around the nitrification towers and blended with the flow coming off the towers in the chlorination basin.

The third mode of operation is peak wet weather mode, which captures flows from 40 to 70 MGD. In this mode, flows split from the primary tanks and follow two different treatment paths through the plant. The first 40 MGD is directed through aeration basins to the final clarifiers,

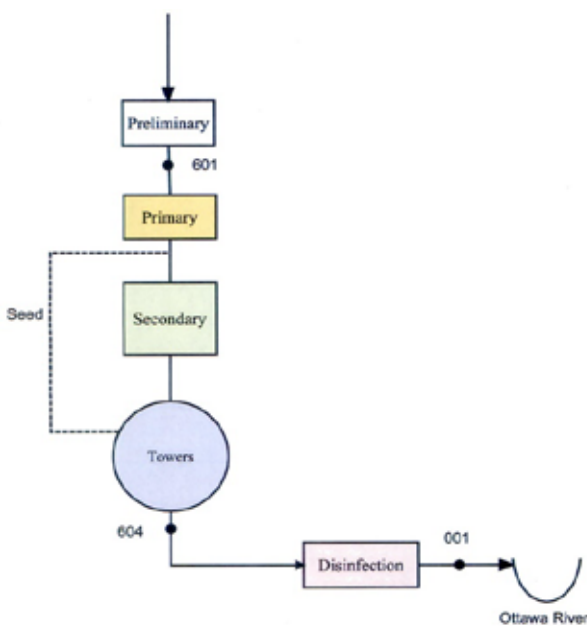


Figure 2: Dry Weather Mode of Operation (Lima WWTP Flow Maximization Plan by J&H)

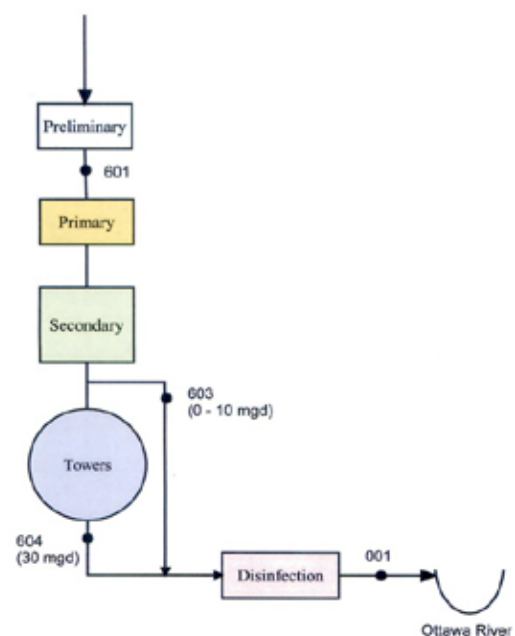


Figure 3: Wet Weather Mode of Operation (Lima WWTP Flow Maximization Plan by J&H)

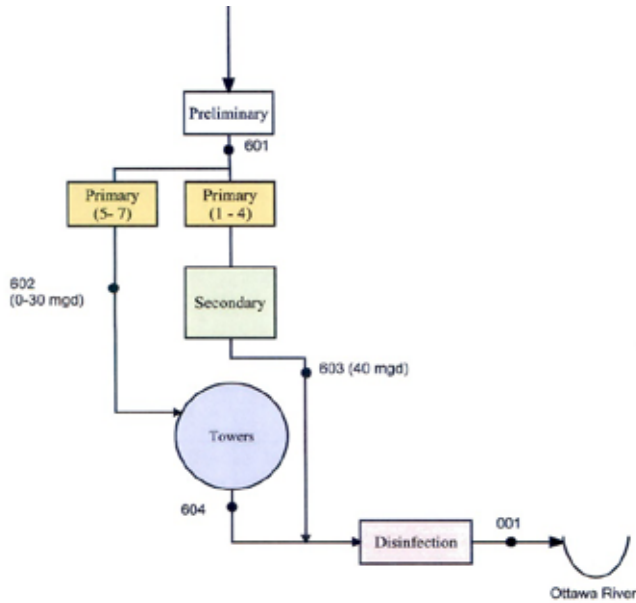


Figure 4: Peak Wet Weather Mode of Operation (Lima WWTP Flow Maximization Plan by J&H)

diverted around the nitrification towers to the chlorination basins. Flows exceeding 40 MGD, up to 70 MGD, are sent through the primary clarifiers directly to the nitrification towers for secondary treatment. From the nitrification towers, these flows are blended with the first 40 MGD in the chlorination basins.

All flows are chlorinated and dechlorinated (as required), and then discharged to the Ottawa River

## CSOs Storage Basin

To supplement the increased flow from the headworks project, the integrated planning also identified the need for weather storage to capture flows exceeding 70 MGD. To capture these flows, the City also constructed a 13 million gallon underground CSO Storage Basin (Basin). The nearby park with baseball and soccer fields was determined to be a suitable location large enough for the Basin to be constructed. To maintain the recreational use of the park, the Basin was buried below grade and restored to a greenspace recreational area for the community. The purpose of the Basin is to help catch potential CSO, up to 13 million gallons once flow to the WWTP has reached 70 MGD treatment capacity. This project included a diversion structure, the Basin, and a pump station to deliver captured flows back to the collection system for treatment.

## Diversion Structure

To direct flow into the Basin, a diversion structure was installed just upstream of Lima's Collett River CSO Structure (Collett). The Collett CSO overflows the most frequently with the highest estimated volume, so placing it upstream optimizes CSO volume capture. The diversion structure has a weir with a 2 inch spaced bar screen on top separating the interceptor from the slide gate that opens to allow flow into the Basin. The slide operates automatically based on water levels at the upstream Heindel CSO Structure (to open) and closes once the Basin is full.

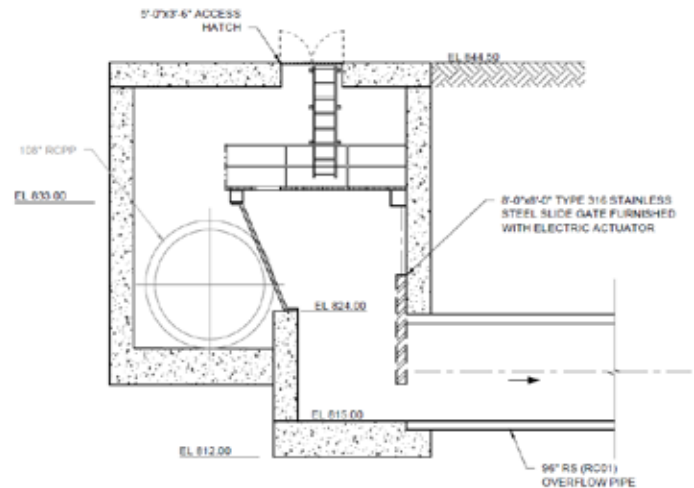


Figure 5: Diversion Structure Diagram (Stantec)

## Basin

The Basin itself is entirely underground. It is comprised of three basins, separated by concrete walls between each basin. Each basin has a slide gate to control dewatering the Basin. The concrete walls between each basin have windows at the top to allow water to flow from one to the other. The windows are lower between basin one and two, and higher between basin two and three. This allows basin two to fill first, then one, then three. Isolating the Basins becomes important in the flushing sequence which will be explained below.

The Basin was designed to be self-cleaning. There are six flushing channels in each basin. Each channel has a

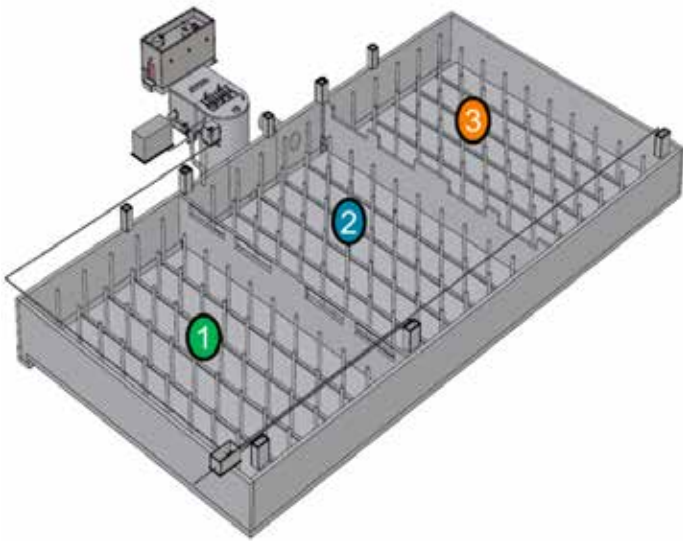


Figure 6: Diagram of CSO Basin (Stantec)



Photo 2: Aerial View of CSO Basin being built (Peterson Construction)



Photo 1: Flushing Gates (Stantec)

flushing gate and a flushing well. There is a flushing water reservoir that spans the length of each basin. Each channel is separated by a 5 feet weir wall. When Basin 1, 2, and/or 3 reach water levels above 6 foot, water will spill into the flushing reservoir, charging the flushing system. After the Basin is completely dewatered, the water stored in the flushing reservoir is used to remove debris accumulated in the Basin. The flushing gates will open one at a time to flush each channel. There is also an option to fill the flushing reservoirs with non-potable water to clean the Basin such as when there is water captured in a basin that does not rise above 5-feet of depth.

The Basin is also fitted with an odor control unit since there is the potential for sewage to be stored for an extended period generating the potential for septic conditions and odors. The odor control unit operates automatically the entire time the Basin is filling, and when the Basin is dewatering. The air circulation system can be run in manual mode to help circulate the air. It can assist with confined space entry if necessary, but is not meant to be the only source of air flow when confined space entry is necessary.

## Pump Station

The pump station pumps the CSO from the Basin, over the Ottawa River, into the south 54 inch interceptor which flows directly to the plant. The pump station is outfitted with three 15 MGD Flygt submersible pumps. There is room to install a fourth pump, should Lima ever see the need. The wet well for the pump station is approximately 55 feet deep. It is fitted with spray nozzles under each pump and around the perimeter to flush the pump wet well before it begins pumping and to break up any debris and grit accumulation under the pumps before the pumps activate. It also cleans the wet well after the Basin has finished dewatering.

## CSOs Storage Basin Operation

### Automatic Operation

The Basin is programmed to run completely automated. The diversion gate opens when the sewer level in Heindel





*Photo 2: The three installed 15 MGD Flygt pumps (Peterson Construction)*

CSO Structure reaches a preset elevation. The WWTP must be pumping 70 MGD through the plant before the diversion gate opens to optimize flow through the plant. If it opens too soon, the Basin will fill and the WWTP will not receive the full 70 MGD. Once the Basin completely fills the diversion gate will close automatically. Radar level sensors at both ends of each basin tell operators the water levels in the Basin. Once the rain event subsides or capacity in the WWTP is available and the level in the 54-inch interceptor is acceptable, operators only need to input a flow rate at the WWTP to initiate the dewatering. At this point, if the Basin did not completely fill then the diversion gate will close, and the slide gates between the Basins holding water will open. The water will equalize between the Basins. Then the flushing sequence in the wet well will initiate. The pumps will automatically start based off lowest runtime and will run in lead and lag or lead/lag/lag depending on the dewatering rate input. With three pumps running, the highest rate the pump station can dewater is 30 MGD.

Once the Basin is dewatered, a prompt will flash on the WWTP computer screen asking the operator to initiate the flushing sequence. There are five different flushing scenarios it will choose from, based on how much water is in each basin. If there is water in the flushing reservoir the hydraulic flushing gates will open one at a time in a programmed order. If there is not, the non-potable water will automatically fill the flushing reservoir in the necessary basins. Once all the channels in each basin have been flushed, the very first and last channels will fill with non-potable water and flush again to wash away any excess grit or debris from the initial flush. The pump station will automatically pump down as the flushing water enters the wet well.

Once all the water has been pumped down to the lowest programmed level in the wet well, another flushing sequence in the wet well will begin. When completed the Basin has been completely emptied and cleaned and is ready for another rain event.

## Manual Operation

Everything that was done through the program mode can also be done manually both at the WWTP and at the Basin itself. Manual operation, while not ideal, has some benefits program mode does not. The operator can open and close the diversion structure to accommodate the rain event, for example if there is a high intensity rainfall, an operator may want to open the gate before the programmed level to help prevent an overflow, or the gate may open too soon based on the level and the operator will need to close it at least partially to increase flow to the WWTP.

Another benefit to manual mode is that during dewatering, the operator can choose to open the diversion gate and allow the first 5 feet to dewater by gravity back into the main interceptor. This saves on pump run time in the wet well, and is a more eco-friendly option if there is no rush to dewater the Basin. Sometimes the Basin will need to be ran manually to troubleshoot an issue an operator is seeing during program mode.

## Conclusion

The improvements to the headworks were completed in 2017 and the Basin was placed into operation late 2020. As such, Lima is still working out the kinks and finding the best way to optimize use of the Basin while in peak wet weather mode at the WWTP. It is through this process Lima discovered if the Basin opens too soon, it will steal flow from the WWTP which will not allow the WWTP to reach 70 MGD and will fill the Basin prematurely, resulting in overflows that may have been avoided. But, with the Basin still in the commissioning phase, Lima is already

seeing the benefits of the headworks upgrade paired with the Basin. After the headworks upgrade it took a while for the WWTP plant staff to fine tune the operation of the three treatment strategies to optimize flow through the plant. Since the optimization of the WWTP operation, Lima has seen a decrease in CSOs.

Once the Basin came online, even though still in the commissioning phase, Lima has continued to realize a decrease in CSOs. As the WWTP and engineers continue to optimize the set points for the Basin, in conjunction with the plant optimization, Lima expects to see the number of CSOs continue to drop dramatically. Moving forward with the consent decree requirements, Lima's next step will be eliminating sanitary sewer overflows (SSO) during designated storm events at seven different locations, all at pump stations. The City is currently evaluating methods to reduce flows to these pump stations to reduce the scale of the pumping and flow equalization improvements.

Being the first community to undertake integrated planning, the City now has the WWTP capacity and flow equalization storage required on the path toward addressing the wet weather discharges of sewage into the Ottawa River. Integrated planning has helped the City balance the technical and operational improvements to treatment and storage component with the schedule and financial constraints of undertaking such a large-scale program. As the City gains more experience with the operation of the upgraded WWTP and the Basin and how the sewer system responds to different rainfall / precipitation or snow melt events, the City will continue to optimize the reduction of CSOs.



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## A new era for biocriteria?

By Elizabeth Toot-Levy, Government & Regulatory Affairs Chair and Adrienne Nemura

In the 1960s, the Cuyahoga River was burning. At that time, it was one of the most polluted rivers in the country. The final fire, on June 22, 1969, drew national media attention and is often credited for inspiring the creation of the U.S. Environmental Protection Agency. I say this, not to dwell on industrial pollution, but as a reminder of how far we have come. The river no longer burns, water quality has improved, beneficial use impairments are being removed, and the fish are plentiful and edible.

This improvement has been tracked using biological monitoring data. In the 1970s, Ohio began conducting biological surveys and used this data to develop biological criteria. These criteria were in the form of tiered aquatic life uses (TALUs) and include modified warmwater habitat, warmwater habitat, and exceptional warmwater habitat. Ohio codified the biological criteria in the water quality standards in 1978. In 1990, numeric biocriteria associated with these aquatic life uses were incorporated into the state water quality standards. These numeric criteria values are based on the health of the fish and macroinvertebrates living in rivers and streams and can be found in the Ohio Administrative Code (OAC) at 3745-1-07. Specifically, OAC 3745-1-07(C) draws attention to the significance of these biological criteria by stating that biological criteria “provide a direct measure of attainment of the warmwater habitat, exceptional warmwater habitat, and modified warmwater habitat aquatic life uses”. OAC 3745-1-07(C) (1) states “Demonstrated attainment of the applicable biological criteria in a water body will take precedence over the application of selected chemical specific aquatic life or whole effluent criteria associated with these uses...”. In other words, if the biological criteria in the stream are met, the stream is considered to be in attainment even if the chemical specific criteria are not fully attained. Ohio’s reliance on the true biological conditions present in a

stream as the ultimate factor to determine if water quality goals are being met has set Ohio apart from other states.

That may be about to change. In May, the Ohio EPA proposed changes to the biocriteria and the implementation of this criteria. The proposed changes remove this hierarchy associated with the biological and chemical specific criteria. This change has the potential to significantly impact discharges regulated under the National Pollutant Discharge Elimination System (NPDES) permit program.

Ohio EPA has provided two substantive reasons for changing these rules:

1. U.S. EPA disapproved the existing rule twice; the agency views OAC 3745-1-07(C) as a modification of approved water quality criteria that did not undergo the required public review and comment and U.S. EPA approval.
2. In 2000, Ohio EPA and U.S. EPA signed a Memorandum of Understanding (MOU) restricting the use of this rule in NPDES permits in the Lake Erie Watershed for any pollutants subject to the Great Lakes Initiative rules (most metals, organic pollutants, and whole effluent toxicity).

Ohio EPA is proposing to remove the biocriteria from OAC 3745-1-07(C) and move the criteria to a new rule, OAC 3745-2-03. Language will remain in OAC 3745-1-07 that indicates that the attainment of aquatic life uses will continue to be based on biological data. The newly proposed OAC 3745-2-03 is intended to indicate how the biocriteria language can be used to implement water

quality standards in NPDES permits. The agency believes this will clarify that the biocriteria are not water quality standards subject to review and approval under section 303(c) of the CWA, but instead are tools for implementation for NPDES permits.

The proposed rule language provides the Ohio EPA the explicit ability to consider the biological attainment status in the receiving water with limitations that were not clear in previous rules. However, the limitations, while in need of some definitions and clarifications, do not appear to be unreasonable. The biological survey data must directly (undefined) assess the aquatic life use in the area impacted by the discharge. The survey data must also be collected during a time that is representative of the discharger's full (again undefined) impact on aquatic life. If these conditions are met, the survey meets Ohio's Level 3 Credible Data requirements, and the existing MOU is met. It appears the agency intends to continue to provide flexibility for NPDES permittees. The proposed changes will eliminate the "automatic" nature of the biological attainment taking precedence over the application of chemical specific criteria but appear to provide Ohio EPA with the authority to continue to use this for NPDES permitting.

Of more concern may be the proposed change to the rules currently located at OAC 3745-1-07(C)(2)(a) and now proposed to be in 3745-2-03(E)(1). The existing version of these rules indicate "Additional regulatory controls shall not be imposed on point sources that are meeting all applicable chemical specific and whole effluent criteria unless...(1) The point sources are shown to be the **primary contributing cause** of the nonattainment." The proposed rule changes the **primary contributing cause** to **substantially contributing** to the non-attainment of the biological criteria, **based on an assessment of any time or flow period**. This change in language appears to indicate that if Ohio EPA believes that a point source discharge **substantially contributes** to a pollutant responsible for non-attainment, even if chemical water

quality criteria are met, additional reductions should be required.

Ohio EPA has indicated that ensuring point sources are the primary source of the pollutant prior to requiring additional controls (when chemical specific criteria are already met) could potentially conflict with federal reasonable potential rules and Total Maximum Daily Load (TMDL) requirements. This particularly occurs in situations where point source discharges are a large portion of nutrient load during low-flow conditions, while not being a majority of the load annually.

In the Fact Sheet prepared to summarize these rule changes, Ohio EPA has indicated that this provision would only be utilized when controls on point sources would be expected to improve biological conditions in the receiving waters. This additional language from the Fact Sheet should be codified as well.

This puts us in an interesting place and takes me to why I started this article the way I did. We have gotten to the point where we are talking about going beyond biocriteria. The rivers no longer burn, we can eat the fish, and we can safely recreate in most of our watersheds. We are now talking about addressing water quality impacts that were not even considered in the past. Our colleagues 50 years ago did not contemplate a time when we would be considering going beyond the biocriteria, but here we are. This is not necessarily a bad thing, but we must make sure that expectations for point sources are reasonable and that more stringent controls will result in measurable benefits. Point sources should make concerted efforts to review Ohio EPA's plans for biological assessments, the results of those assessments, and development and implementation of TMDLs. Developing a local understanding of watershed health and relationships with other watershed stakeholders could also prove valuable during the NPDES permit renewal process.



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# Testing Cascading Grassed Waterway

by Tyler Miller, Defiance Soil & Water Conservation District

A new practice has been installed in Defiance County, as a way to increase water retention, reduce runoff, and reduce phosphorus laden sediment. Cascading grassed waterways are a new and innovative practice designed to combine traditional practices of grassed waterways and wetlands in one practice. Cascading waterways are another tool to help reduce phosphorus from leaving agricultural fields and creating harmful algal blooms in Lake Erie.

Waterways do a great job of reducing soil erosion. They also capture large amounts of sediment that contains particulate phosphorus which fuels phosphorus feeding algae. Waterways often also act as a buffer between fertilized cropland and streams. Wetlands installed within a grassed waterway help add much needed retention. These areas hold water until it evaporates or infiltrates the soil. Wetlands also are great

at capturing sediment but they have the added benefit of reducing dissolved reactive phosphorus (DRP). DRP is the phosphorus that is water soluble and not tied to a soil particle.

Previously, cascading grassed waterways were only being used in the Chesapeake Bay region. Defiance Soil and Water Conservation District (SWCD) with the assistance of Defiance County OSU Extension have installed the first in Ohio. Several counties in Northwest Ohio have followed suit and installed cascading waterways in order to combat excessive runoff. As of now these practices do not fit within current FSA and NRCS programs. We believe that if cascading waterways are implemented in the area these agencies will see the benefit and soon adopt them as cost shareable projects.

The current cascading waterway project in Defiance

## *Cascading Wetlands*





# Watershed

County consists of three waterways and six retention areas. The Defiance Cascading Waterway project was installed in the summer of 2019. The project was designed by Defiance SWCD and approved by Ohio Department of Agriculture Area 1 Engineers. The retention areas vary between 30 to 70 feet long and approximately 20 to 25 feet wide. The depth on the pools varies between 1.4 and 2 feet deep. All of this excavation totaled nearly 400 cubic feet of soil that has been excavated so that water containing phosphorus and nitrogen can be retained and treated within the pool area.

When the pool areas are empty, they have the capability to hold a runoff event of two tenths of an inch across the entire watershed. Then as the water evaporates or infiltrates into the soil, the pools will be able to hold more water from the next rainfall event. This water retention is what makes this practice so intriguing and beneficial to the environment. With this aim in mind, it was determined that testing should be conducted to more fully understand the benefits. With assistance

from Ohio Department of Natural Resources, Defiance Board of Commissioners, Putnam SWCD, Defiance OSU Extension, Defiance City, and Alloway, Defiance SWCD was able to start testing the water entering and leaving the cascading waterway project. Alloway is a full-service environmental laboratory specializing in water testing. EnviroGo, a division of Alloway, offers customized mobile monitoring and sampling stations.

Alloway has built two trailers which are self-contained and self-powered laboratories. These trailers intake water from the retention pools and tests it for multiple nutrients as they flow down the waterway. The particular cascading waterway that is being tested has three pool areas in it and the trailers are placed at the top and bottom pool. These trailers also have weather stations on them so the trailer knows when to trigger a test from a rainfall event. The testing began this spring and will conclude by this summer. At that point, the results will be summarized for future projects to be designed at a later date.

## *Photos of the Cascading Wetlands*









## Fairborn Water Reclamation Center

by Travis Cooper, Assistant Utilities Superintendent and SW Section Safety Chair

The year is 1958. NASA has just been established and has launched the first satellite into space. “Barbie” was created and released to a huge success. “The Purple People Eater” and “At the Hop” are topping the music charts across the nation. The City of Fairborn has an existing wastewater treatment plant located between taxiways 14 and 15 on Wright-Patterson Air Force Base. Not much is known about this original plant, other than being housed on the military base. Understandably, this caused some headaches for the military installation. The decision to relocate started being discussed and was then put into action.

This brings us to the current site of the wastewater plant, located at 6920 Upper Valley Road, Huber Heights.

Originally built in late 1958, the current water reclamation facility is rated for an average flow of six million gallons per day (MGD) and a peak flow of sixteen MGD.

There have been various upgrades and improvements made throughout the years to the facility. Originally the plant had two rectangular primary clarifiers (which would later become the aerated grit basins), three trickling filters (which would become oxidation ditches), two final clarifiers (which would be replaced by two deeper clarifiers), two anaerobic digesters (which would later become aerobic digesters) and drying beds for solids dewatering. This original facility was simplistic but worked incredibly well.

*City of Fairborn Water Reclamation Center*





Before we dive into how the wastewater plant operates, I want to do a brief process overview of the Fairborn Water Reclamation Center (FWRC). Household or business Sewer Lateral > Fairborn Sewer Main > Northwest Lift Station or Main Influent Pump Station > Screenings Building > Aerated Grit Chamber > Oxidation Ditches 1-3 > Oxidation Ditch 4 > Final Clarifiers > Post Aeration/ Ultraviolet Disinfection > Mad River. The Solids Treatment Process goes through the following route: Secondary Waste Sludge > Aerobic Digesters 1-4 > Belt Filter Press > Sludge hauled offsite for further treatment.

The City of Fairborn collects sanitary sewerage from a service area that includes the City of Fairborn, Wright State University, and a small portion of the Wright-Patterson Air Force Base. The collected sewage flows to either a lift station located approximately one mile south of the FWRC or to the Main Influent Pump Station located onsite at the FWRC. From this point forward, the wastewater gravity flows through the rest of the facility.

## Screenings/Grit Removal

Flows from the Northwest Lift Station and the Main Influent Pump Station combine at the screening building. Raw wastewater flows through two Andritz Aqua-Screens that are tied into a washer/compactor setup that discharges the dewatered, and compacted screenings into a dumpster located beneath the screenings building.

Screened wastewater flows from the screen channels to two aerated grit tanks that are located below and adjacent to the Screen Building. Air is supplied to Tideflex diffusers installed along the length of the tanks by two positive displacement Aerzen blowers that are located in the Screen Building. Grit settles to the bottom of each tank and is moved to a sump by a chain and flight collector mechanism. The grit-laden slurry is pumped from the sump pit by a submersible pump.

The grit-laden slurry is pumped to a Wemco Hydro-gritter which induces a cyclone that concentrates the grit



*TOP: FWRC Team left to right: Jamie Schnuth, Frank Barosky, Brooke Eakle, Barry Stroop, Mark Jamison, Jason Schaurer, and Roger Raridain;*

*MIDDLE: Aerated Grit Removal;*

*BOTTOM: Andritz Aqua Screen*



*Oxidation Ditch Exterior Channel*



*Oxidation Ditch with Disc Aerators*

and discharges it to a grit classifier that allows the grit to settle. The settled grit travels up a spiral conveyor. As the material travels up the conveyor it is dewatered. The resulting waste discharges through a chute into a dumpster located on the floor below the classifier. Overflow from the cyclone and drainage from the grit classifier returns to the head of the plant via the Main Influent Pump Station.

## Biological Treatment

Following the screening process, the wastewater flows into a diversion chamber for Oxidation Ditches one, two and three. The Diversion Chamber also has the return sludge being mixed into the raw wastewater.

Normal operation is to have only two of the three circular oxidation ditches operating while the third tank is left offline to clean, perform preventative maintenance, or to repair. There is a fourth oval oxidation ditch which is always in service. Each of the four oxidation ditches are equipped with Siemens Orbal disc aerators, as well as one constant speed motor for each Orbal shaft. These disc aerators are arranged to operate as a modified Bardenpho process, with the first steps of the process occurring in Oxidation Ditches one, two and three and the final steps of the process occurring in Oxidation Ditch number four. The modified Bardenpho process the FWRC currently utilizes is an alternating anaerobic to anoxic to aerobic process, primarily used to satisfy oxygen demand, and remove, ammonia, phosphorus, as well as total nitrogen.

Oxidation Ditches one, two and three each include three concentric circular channels. The first interior channel operates as a mixed anaerobic zone, which is characterized by the absence of both dissolved oxygen and combined oxygen in the form of nitrates. In this zone, biodegradable particulate organic matter is converted into volatile fatty acids (VFAs), which are subsequently separated from the particulate matter and absorbed by phosphorus accumulating organisms (PAOs) that release phosphorus under anaerobic conditions. The mixed liquor then flows to the middle channel which operates as a transition zone to go from an anaerobic zone to an anoxic zone, which is characterized by the absence of dissolved oxygen. Any oxygen present exists in combined form, chiefly  $\text{NO}_3$  as nitrification begins. In this transition zone, microorganisms quickly absorb any oxygen added by the discs to initiate nitrification while facultative microorganisms use additional oxygen from the  $\text{NO}_3$ , thus releasing nitrogen gas (denitrifying). Additionally, in these initial zones there is a high amount of carbon loading which feed the nitrifiers. Finally, the mixed liquor flows to the outer channel which operates as an aerated anoxic zone. In the aerated anoxic zone, BOD is oxidized, the ammonia conversion continues to nitrate, and phosphorus is absorbed by the PAOs.



The mixed liquor exits Oxidation Ditches one, two and three and combines before entering the outer channel of Oxidation Ditch number four. Oxidation Ditch number four has three oval channels and is designed to ensure that this outer channel operates as an aerated anoxic zone. This design allows us to provide a treatment process with sufficient oxygen where ammonia is oxidized under simultaneous nitrification and denitrification with some carbonaceous BOD present. The mixed liquor then enters the middle channel and operates as an aerated anoxic zone to denitrify the NO<sub>3</sub> produced in the preceding aerobic zone. Finally, the flow enters the inner channel and operates as an aerobic zone to increase the dissolved oxygen in the mixed liquor to allow for increased ammonia polishing.

## Final Clarification

Mixed liquor flows from Oxidation Tank number four to a Final Clarifier Diversion Chamber. At the chamber, the flow can be sent to one or both of the Final Clarifiers. Flow enters each clarifier through a center well. The incoming water energy is dissipated in the well and the mixed liquor then flows out into the clarifier. Solids in the mixed liquor settle to the bottom of the clarifier. Scum and other unwanted material floats to the surface of the clarifiers, where it is scraped off by a collector arm onto a scum beach and dropped into a scum pit. The debris in the scum pit is then sent back to the head of the plant to be removed. Generally, the facility only has a need to operate one Final Clarifier at a time. However, if elevated flows are expected, the second Final Clarifier is put in service.

## Effluent Disinfection/Post Aeration

Effluent from the two clarifiers is combined and sent to the Ultraviolet (UV) Facility. Two ring compressors at the UV Facility supply air to diffusers located in the UV Channel and to a diffuser pipe installed immediately upstream of the UV Facility. The air is supplied to ensure that the dissolved oxygen concentration in the effluent discharged to the Mad River is at least 5.0 mg/L and to clean any debris or algae from the ultraviolet disinfection tubes.

The plant NPDES permit requires disinfection of the



*Plant Effluent*



*Final Clarifier*



# Plant Profile

plant effluent from May through October. During those months, four UV modules consisting of 40 lamps each, are installed in the UV Channel. As the clarified, aerated effluent flows through the channel, the effluent is disinfected by ultraviolet irradiation. During the months that disinfection is not required, the UV modules are removed from the channel and placed in storage.

## Solids Handling

Secondary sludge is withdrawn from the final clarifiers and flows to the Return Pump Building. Three centrifugal pumps located in the basement of the Return Pump Building continuously discharge the sludge into a common discharge header. Nearly all of the Return Activated Sludge is returned to the Aeration Diversion Chamber upstream of Oxidation Ditches one, two and three. Monitoring the sludge blanket depth and SVI is necessary to fine-tune the sludge removal operating cycle. There is an ultrasonic system that continuously displays sludge blanket depth on the Supervisory Control and Data Acquisition (SCADA) system. The Operators can also use a “sludge judge” as an easy-to-use device to confirm SCADA readings or for checking the sludge blanket depth in case the ultrasonic system malfunctions. The remaining Waste Activated Sludge (WAS) is pumped to the aerobic digesters for further treatment.

Wasting sludge is accomplished by manually opening a valve located on the return sludge line. This waste line discharges directly into the digesters. The sludge wasting rate is determined by the Operators’ and Lab Analyst’s observations of the various parameters that affect overall treatment effectiveness as well as their operational experience and results in an optimum mixed liquor suspended solids concentration in the oxidation ditches. If the concentration is other than the desired amount, the waste rate is gradually increased or decreased. Changes are limited to less than ten percent at a time. The Operators and Lab Analyst evaluate the data for three to five days before making additional changes.

## Digestion

The FWRC has four aerobic digesters that are controlled by oxygen reduction potential (ORP). Air is supplied to these digesters for oxygen transfer and for mixing. There is one variable speed positive displacement blower for each of the digesters. Additionally, the digesters are also mixed by a mechanical mixer that floats on the surface of the liquid. The ORP level in the digester is measured and this measurement is used to cycle mixer and blower operation. The blowers start when the ORP falls below a setpoint, to avoid microorganisms using sulfur as an oxygen source and generating odors. When the ORP rises to a second setpoint, the blower stops, and the mixer starts. The mixer operates until the ORP drops to the Blower Start setpoint, and the cycle repeats.

## Sludge Dewatering and Disposal

Digested sludge is pumped from the Aerobic Digesters to a filter press using one of four Seepex positive displacement pumps. Liquid polymer is added to the sludge just upstream of the press using a Velodyne/Seepex pump polymer delivery system. Sludge is dewatered by a BDP Belt Filter Press and is conveyed by an auger to a series of belt conveyors that discharge the dewatered sludge to a covered Sludge Storage Building. We are able to run the press three to four times a week depending on the



*Digester*



*Belt Press*

time of year and digester levels. The dewatered sludge has a monthly average of approximately fourteen to eighteen percent total cake solids. All of the processed sludge is stored in the covered building until it is periodically removed by a contract hauler and taken to a processing facility as the final method of disposal.

## Performance Overview

Fairborn Water Reclamation Center consistently meets or exceeds any permit or goals that are put forth. Having worked at several facilities in my career, I feel that the FWRC operates at a higher standard than others. This is not because of the plant processes, it's because of the personnel. Every single person operating the facility takes personal pride in doing their absolute best every day. From maintaining the grounds to investigating plant issues, every team member is valuable and makes the FWRC their own.

A lot has changed within the past sixty years. Every week there's a new hit song that tops the charts, dolls have been replaced with electronic devices, and even a pandemic has been tossed into the mix. Throughout all of this, the FWRC has continued to provide outstanding support to the community, university, and Air Force Base.



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## How to Optimize the Results of a Reorganization

by Jessica Bishop, MBA, Brown & Caldwell

Despite the commonality of reorganization, restructuring, and reengineering efforts, results remain disappointing. Multiple studies have concluded that more than seventy percent of organizations that undergo these types of interventions, fail to meet their cost reduction or productivity goals. One of the many reasons for the limited success of reorganization efforts may be the negative impact they have on organizational commitment. A simple definition of organizational commitment is “the relative strength of an individual’s identification with and involvement in a particular organization”. When new groups are formed after a reorganization, they restart the process of establishing cultural norms. It is common for people in new groups to become stuck in the early stages of “forming”, trying to understand expectations of them in their new role and “storming”, trying to understand their influence and authority within the group. During these stages group members feel lost and are not able to be productive.

In addition to consistent findings that reorganization has significant negative impacts on organizational commitment, there is evidence that it also weakens job security, job attitudes, turnover intentions, and most disturbingly, health outcomes. Several studies on the health impacts of reorganization have found substantial negative effects on mental well-being, blood pressure, body mass index, and cholesterol levels, that could last for up to six months after placement in a new group or work environment. With such a multitude of negative impacts on employees and undesirable operational results, it is difficult to rationalize the frequency of reorganization efforts. Regardless, they are inevitable. Some reorganizations are planned for proactive reasons, others are forced in reaction to unanticipated changes. While both kinds pose the threat of creating lingering role ambiguity that robs organizations of positive outcomes, this can be prevented.

Role ambiguity refers to the situation where a role

## The People Place

This Buckeye Bulletin series focuses on the people side of our industry, hence the title: The People Place. Traditionally, the Buckeye Bulletin comes loaded with mountains of technical pieces: plant profiles, industry trends, regulatory insight, project overviews, etc., which, without proper ‘people-care’ would not be possible! After all, your organization can only be as successful as the health, wellness, and productivity of your people and culture. Focus areas of this series are topics such as leadership, management, health and wellness, succession planning, work/life balance, recruiting/retaining, change management, knowledge transfer, career laddering/branding, etc. We hope you enjoy this series as much as we are excited to bring it to you! If you are interested in submitting an article or specific focus area, please contact Jason Tincu. (jtincu20@gmail.com) Thank you!



description lacks specificity, resulting in an individual not understanding what tasks he or she is responsible for or what is expected of them. Not surprisingly, role ambiguity has a direct impact on turnover intentions. Most of us have experienced the frustration of feeling unclear about what we have been asked to do. The first and most obvious measure that can be taken to reduce this harmful condition during reorganizations and the normal course of business is investing more resources in providing clearly defined roles, task descriptions, and performance measures. In addition to enhanced role descriptions, other conditions that have shown to reduce role ambiguity include social support, trust-based peer relationships, and fair organizational decision making.

The potential for social support to improve role ambiguity is most effective in the relationship between employees and their direct supervisor. Individuals who feel supported by their managers are significantly less likely to report feelings of role ambiguity, conflict, and overload. The importance of this relationship may be due to the likelihood that some employees refrain from expressing concerns. They often fear they will be blamed for complaining or inherit more tasks. This fear is likely heightened during the turmoil of a reorganization.

Utility leaders have the opportunity to mitigate the damage typically caused by reorganization. Preparing managers with clear roles for impacted staff and providing training to strengthen the relationships between staff and supervisors has the power to fortify organizational commitment when it matters the most and get results from reorganizing.

## Jessica Bishop, MBA

*Jessica is a change management consultant at Brown and Caldwell, where she delivers value by expediting adoption of change for utilities. She performs assessments of organizational readiness, organizational health, change capacity, stakeholder impacts, and resistance risks, to quantify the complexity and magnitude of changes and determine requirements for effective stakeholder engagement.*

*Jessica holds a Bachelor of Science Psychology, a Master of Business Administration in Organizational Management, and is currently in a PhD program for organizational learning, performance, and change (OLPC) at Colorado State University.*

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# WEF Utility Partnership Program

The WEF Utility Partnership Program (UPP) is designed to allow Ohio utilities to join WEF and OWEA while creating a comprehensive membership package for designated employees. Utilities can consolidate all members within their organization on to one account and have the flexibility to tailor the appropriate value packages based on the designated employees' needs. Key benefits include:

- UPP is fully customizable, based on the needs of each utility, and a WEF team member will be on-hand to walk each utility through the enrollment process.
- ALL members at the utility will be enrolled, with synchronized begin and end dates, on ONE invoice, for an easy one-time per year payment.
- All members, who were already WEF members, retain original membership number, credit for all years of membership, and remain a full-voting WEF member.
- ALL employees at the UPP utility will be eligible for membership registration rates at WEFTEC, as well as the early-bird rate for Premium and Standard WEFTEC registration at anytime throughout the registration period.
- ALL employees at the UPP utility will also be eligible for member rates for the OWEA Technical Conference and Exposition, OWEA Workshops, and events.
- All employees at the utility will be eligible to register for a WEFTEC Exhibition-only pass at NO-CHARGE.
- WEFTEC registrations can be included in the UPP Membership transaction at the time of enrollment or can be grouped and submitted closer to WEFTEC.
- UPP also includes a special, NO-CHARGE membership for Public Officials designated by the Utility, at their discretion.
- Up to five new WEF/OWEA members can be added by the utility each year, at no charge for the first year of membership.
- UPP utility will be eligible for distributor pricing on all WEF products and services – that's 40% off list pricing. In addition to traditional items this discount also extends to online learning in the new WEF Knowledge Center.
- UPP members will be eligible for special discounted registration for other WEF Conferences and events.

**OWEA currently has 33 municipalities signed up for the Utility Partnership Program. To learn about the benefits for your utility visit <http://www.wef.org/UtilityPartnership/>**

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## Ohio UPP Members

- Allen County Sanitary Department
- Avon Lake Regional Water
- Butler County Water and Sewer
- City of Bellevue
- City of Canton
- City of Celina
- City of Columbus
- City of Dayton
- City of Fairborn
- City of Fairfield
- City of Harrison
- City of London
- City of Marietta
- City of Mason
- City of Newark
- City of Oberlin
- City of Painesville
- City of Solon
- City of Steubenville
- City of Toledo
- City of Troy Ohio
- City of Twinsburg
- City of Urbana
- City of Warren
- Clermont County Sewer District
- Delaware County Regional Sewer District
- Fairfield County
- Fremont Water Reclamation Center
- Greene County Sanitary Engineering Dept
- Lake County Dept. of Utilities
- Metropolitan Sewer District of Greater Cincinnati
- Montgomery County Environmental Services
- Northeast Ohio Regional Sewer District

# Office Offerings

We did it!

I am so excited I can say those words... WE DID IT! We held One Water and it was GOOD. There was some doubt that One Water 2021 would actually happen in the beginning of the year. We were in the throws of the pandemic and weren't sure that we could hold the much-anticipated joint OAWWA/OWEA event that brings together both water and wastewater professionals from across the state and country. There were many hard discussions, decisions and compromises that took place. A good bit of luck was thrown in when vaccines were approved and readily available and, in the end, there was a One Water 2021!

This year's One Water is the first in a scheduled series of six. This joint event allows both organizations to offer more to attendees and have more negotiating power with venues. We are stronger together and knew it was imperative to do everything we could to make an in person event occur to the best of our abilities.

We couldn't have pulled this off without the support of everyone involved. I would like to give a sincere thank you to all our Executive Committee members and One Water Task Force members, along with our Conference Co-Chairs who believed in this event and were open to the necessary changes to make it happen. I would also like to thank the volunteers that truly make One Water possible.

I also want to thank our exhibitors and sponsors. Without their support One Water would not



happen. These companies believed we could hold this meeting and chose to financially support us in the endeavor. This was a true leap of faith and we are very grateful for everyone who believed we could do this.

Close to 1,000 people came to Duke Energy Center in Cincinnati to be part of One Water. You sat in technical sessions, attended awards ceremonies, visited with exhibitors and networked at social events. You were TOGETHER. That is really why we wanted to make sure One Water happened. We had heard from so many members who were craving human interaction and who were so excited to be together again.

It's the being together that really mattered at One Water. Not where a particular tech session was slotted or how many drink tickets you received, but that we were there, TOGETHER. One Water brings both wastewater and drinking water professionals together to celebrate THEIR industry. After 2020, I believe we can all agree we were ready for some celebrating.



# Office Offerings

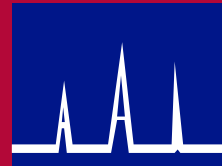
As One Water continues it will evolve. Things will get modified or changed. We will be visiting other cities like Cleveland and Columbus. We will have different venues like Kalahari. Each year will be slightly different. What we can promise won't change is that we will continue to be TOGETHER and are stronger for it!

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## Everyone Who Participates is a Winner

by Dale E. Kocarek PE, BCEE, Past President 2010-2011

### Inspirational Quote

*"We choose to go to the Moon in this decade and do the other things, not because they are easy, but because they are hard..."*

*President John F. Kennedy, September 12, 1962*

Without great effort, there can be no great achievement. Achievement is a result of education, learning, and practice. It is a systematic process practiced over a lifetime and never fully completed. We must be lifelong learners.

### Bring this down to home

While most of us will not be part of traveling into outer space, we, the members of OWEA, strive and achieve in our own backyards in keeping our rivers, lakes, and streams drinkable, fishable and swimmable in conformance with the letter and spirit of the Clean Water Act and Amendments. The seemingly little things that we do every day may seem ordinary to us, but they are part of the process of producing clean water, which is essential to life.

Much of our work at OWEA involves public education and outreach to teach and grow the next generation of water quality professionals in our industry. Our efforts over the last few decades was to evolve our profession from a job to a career.

### How Recognition Has Evolved

One episode of TV's famous cartoon The Simpsons starts with a silent panorama of Lisa's and Bart's bedrooms in their modest suburban home. In Lisa's bedroom are displayed dozens of trophies on desks, cases and plaques on the wall for both academic and other achievements in gymnastics and other activities. In contrast, Bart's bedroom has one trophy, which was a participation award. Those who are familiar with The Simpsons are not surprised, as it is widely known that Lisa is a precocious, multi-talented child, while Bart is more like his father Homer.

When I attended primary and secondary schools in the 1960s and 1970s, participation awards were uncommon. In most cases, awards were for first, second, third place or honorable mention. Since that time, participation awards grew in popularity. I have read this was due to changing attitudes in education to send affirmative messages that everyone is a winner. While this kind of recognition can be helpful, participation, or just showing up, is different from high achievement.

### OWEA Awards

As a Past President and Awards Committee Chair, I know that OWEA has several types of awards. Several including 5S, Larry Moon, and Arthur Sidney Bedell (WEF Award) are to award long-standing commitment and service to the Association. Others, given each year, and voted on by the Committee recognize high achievement by peers in our industry.

### Section Awards

The OWEA Sections give awards too. It is uniquely special to be paid tribute to your peers in your home section. They know you best, and this makes the award special.

On May 29, 2021, I attended the Northeast Section Meeting in Independence. It was the section's first mask less meeting in over a year, and my first experience as visiting an OWEA meeting as a municipal operations employee.

One of the most unique aspects of the NESOWEA is they have come up with their own names for awards from past members of their section. This is in contrast to other sections that give section awards of the same name as state awards. Two award winners I highlight are Paul Solonics of the City of Solon and Nicole Erkkila of Lake County. I highlight these two, in particular, as they make a special impact on me. I have known Paul Solonics for most of the last decade. I attest to his service to the organization



in the area of Public Education and the Student Design Competition for OWEA in seeing and helping coach the student teams at WEFTEC a couple of years ago. He took an idea and got the program off the ground. I first met Nicole on May 29th at the section meeting. As Northeast President Michael Cook read the biography for Nicole, it was evident this was a special moment for her in celebrating the work that she has done for Lake County. I was glad that we could recognize her work in the way we did. While I came to this section meeting to get 2.25 contact hours, the section awards portion was the highpoint of the meeting for me.

The Keith Riley Award is an interesting one as Keith continues to remain active in OWEA. Keith is an example of long-term service and doing any job needed with enthusiasm and a happy heart. He was always there



*Paul Solonics Gets the Reihl Award in the NESOWEA*



*Nicole Erkkila Gets the Lab Analysis Award in the NESOWEA*

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to help. He has done everything possible in OWEA except serve as WEF President. His service includes the NESOWEA, the State Board, WEF House of Delegates, and WEF Board of Trustees. In his long career, Keith has become an iconic and celebrated member in our organization.

With this being said, there were a number of people who were awarded section awards on May 29, 2021. I mentioned only two. Just recently, I was also given the Lifetime Engineering Award by the Southeast Section, which is my home section. I have been in the profession nearly 40 years, and that was an honor for me.

## **My Experiences as an Operator**

I received a Class III Wastewater Operator's license in 1988, I was not an actual working operator until 2021. I am working for the City of Aurora as the Assistant Wastewater Facilities Manager. It is a hands on position that has given me a new appreciation for the vital necessity of both operations and maintenance personnel.

The ASCE survey continues to rank water and wastewater infrastructure with a D rating due to its age and condition. As our nation's infrastructure ages, the need for skilled maintenance workers has increased. Facilities must be able to keep aging facilities operating longer than in the past.

## **What this has taught me**

Water and wastewater infrastructure requires a broad range of trained and dedicated talent to operate and maintain systems. All members of the team are vital to the success of an organization.

I am proud to be part of an organization that recognizes both active participation and achievement.





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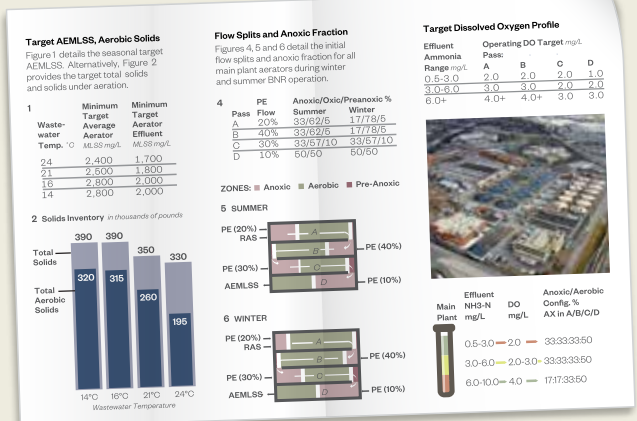


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# Section Reports



Tiffany Maag, President

I am excited and honored to serve as the Southeast Section President of OWEA for the 2021-2022 year. We are optimistic that this year will be a return to normal and that we can once again gather in person to enjoy the section meetings and the events that you are accustomed to! I would like to thank our outgoing President, Melodi Clark for her leadership over the past year as well as her dedication to the executive committee, State and Section Committees, and State Executive Committee. She really fills up her plate with all things OWEA and excels at what she does! Good luck to her in the future as she continues in her role on the State Executive Committee.

I am currently the Director and Sanitary Engineer at the Delaware County Regional Sewer District. I graduated from the University of Dayton with a Bachelor's in Civil and Environmental Engineering. I live in Lewis Center with my husband Ryan and two kids Kaelyn (9) and Jackson (7). Our spare time is spent boating, golfing, and watching our kids play sports.

For 2021-2022 our Executive Committee will be chaired by Melodi Clark-Past President; 1st Vice President Josh Holton; 2nd Vice President-Amy Eberhardt; Secretary-Jamie Mills; Treasurer-Aaron Pennington; 3d Year Director-Kelli Jamison; and 2nd Year Director-Cory Smith. I would like to welcome aboard our 1st year

director-William "Tucker" Randles; welcome to the SEOWEA Executive Committee!

We held our first couple of in person events since the beginning of the pandemic this summer, which were a great success. Our first event was a happy hour at the Bogey Inn located in Dublin, Ohio. It was great to see everyone again in person and catch up with folks we haven't seen in over a year. Our second event was a Section Meeting held on June 24, 2021 which included three treatment plant tours and 2.75 contact hours. The tours included the City of Zanesville WWTP, City of Cambridge WWTP, and Village of New Concord WWTP. We also distributed our annual awards at the business meeting which was held at Jackson Park in Byesville. We successfully held the entire event (tours and lunch) outside and luckily the weather cooperated that day. Congratulations to all of our award winners and thank you to those who provided the plant tours and made it a great meeting!

We are excited for the upcoming year and will provide additional in-person events starting with a section meeting in the fall, stay tuned further detail on that meeting and more.

I am looking forward to this year and serving as your president of the Southeast Section of OWEA. If anyone has any questions or would like to get involved with our section please feel free to reach out as we are always looking for the next group of leaders to take this section to the next level.

Tiffany Maag, [tmaag@co.delaware.oh.us](mailto:tmaag@co.delaware.oh.us)



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## NESOWEA

Bill Zawiski, President

Wow, the Grateful Dead said it best: What a Long Strange Trip Its Been. I would like to thank Michael Cook as our outgoing president. He did a great job keeping us together and focused during our extended time of isolation. As vice president I must say that it was a very light year. With no live seminars to plan, my job was extremely easy (I really wish it wasn't).

As we hopefully emerge from this pandemic, we hope today finds you and your families in good health and safe. Our lives have all been impacted, the term "essential worker" now has greater meaning, stressing the important work our members perform. The section is working towards a new normal. By the time this issue is published we will

have completed our summer Biomasters golf outing. We are also planning for our fall meeting and plant tour as well as fall outing at the Akron Zoo. We are also looking forward to resuming our Operations and Industrial Waste seminars in 2022, always interesting.

Our 2021-2022 executive committee looks forward to providing quality educational opportunities as well as some sorely needed human contact. Personally, I think this has been my biggest challenge, missing friends and conversation. Things I have taken for granted are now looked at much differently. May the coming year bring health and happiness and enough continuing ed hours to keep you legit! I am honored to share this time with our EC members: Jennie, Krishna, Steve, Kristi, and our new member Doug. As always, a big thank you to our treasurer Todd and past president Michael. And I must not forget our section delegate Mary Ann.

Peace Out!  
Bill Z.



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Tony Hintze, President

Hello from the Northwest Section!! This is an exciting time to be stepping into my new role as Northwest Section President. After 15 months of COVID-19 restrictions everything is starting to come back to life and we are all working hard to get things back to normal. I would first like to thank Todd Saums, for his service to our section this past year. Todd has done a great job keeping our Section moving forward, proving that even a pandemic can't hold us back. Another thank you goes out to the rest of the Northwest Executive Committee and Committee Chairs, for their support and guidance. The Northwest Section wouldn't be where we are today without amazing volunteers like you.

## For those of you that don't know me...

My introduction to wastewater was a little different than most. I grew up around Fremont's wastewater plant. My Dad started as an operator for the City of Fremont in 1959, moved into maintenance and retired as the Assistant Superintendent of Maintenance in the early 90's. I admit I really didn't understand how it all worked at the time. But WOW, the wonders of this amazing place my Dad simply called the Sh.... (Well, maybe I'll leave that to your imagination). One of my favorite things to see were the three giant sprinklers. Dad constantly reminded me that I shouldn't get too close. My younger self could never understand why anyone would want to water rocks. After all, everyone knows rocks won't grow any bigger no matter how much you water them but they kept trying. I admit every chance I had I reached out when that sprayer arm came close hoping for the water to touch my hands. Then there were the scary grated stairs and walkways that I was quite positive would one day lead to my demise.

Years later I graduated with dreams of working with ODNR but I quickly realized at the time there were more people than positions. Although there were a lot of opportunities out west, I really wanted to stay close to my hometown. I had to reevaluate my goals and come up with a new plan.

A few jobs later I found myself applying for and accepting a position as an operator for the City of Fremont. I never

thought I would one day be walking the same buildings I used to visit as a child. That first day I noticed that they finally gave up trying to make those rocks grow. All that was left were the three empty tanks that once held the trickling filters. You have no idea how glad I was that my little hands never could reach that water.

Twenty-one years later I now hold an Ohio EPA Class III Wastewater Certification and OWEA Class I Laboratory Certification. I am a Crystal Crucible Member, OWEA State Lab Co-chair and Northwest Section Lab Chair. I am a judge for the Ops Challenge Lab Event at the state and National level. Through the City of Fremont I have had the privilege to create and present two programs that reached out to students in our local elementary schools about the importance of water and what they can do to help preserve our water. This has become something I look forward to every year.

## Recent Events

On May 26 we had a great turn out for our Annual Section Meeting/Golf Outing held at The Ohio Energy & Advanced Manufacturing in Lima, OH. Everyone had the opportunity to listen to some great presentations and earn 3 contact hours. This year's Section Award Winners: Kelsey Heck received the Kathleen Cook/Lab Analyst Award, Jessica Preston received the Max Phillips Award and Mike Hile received the Moe Swaisgood Award. At this year's One Water Conference the City of Toledo's International Park CSO Basin Project was one of the winners for Engineering Excellence Award, George Hintze received the Dean Stewart Award, Jon VanDommelen received the W.D. Sheets Award, and Ted Baker received the Arthur Sydney Bedell Award. Congrats to all!!

## Upcoming Events

As of now the Northwest Section Meetings will be held in October, March, and May. The dates and locations for these meetings will be announced as soon as they are confirmed. Let me know if you would like to host a meeting, present a topic or have a topic suggestion. We would love to hear from you.

I look forward to seeing you all throughout the year. Remember we are here for you. Feel free to contact me with any questions or concerns.

Tony Hintze, [thintze@fremontohio.org](mailto:thintze@fremontohio.org)



Dave Reinker, President

I am truly grateful for the opportunity given to me to serve as the SWOWEA Section President for 2021-2022. The time spent getting to this point has been the most rewarding part of the journey. By volunteering in this organization, it has given me opportunities to meet consultants, engineers, and operators all in the industry to make our jobs better, safer, and more efficient. The combination of these professionals all go hand in hand with our mission to keep the water and environment clean for future generations. Before I go on about myself, THANK YOU to now past President Kelly Kuhbander. You did a wonderful job leading us during a "Virtual Year". From Zoom EC meetings to leading us to do virtual section meetings, you kept the Southwest section continuing towards the path of our motto, "Southwest is Best!" Enjoy past president duties and know that you have done a great job all the years you served on the EC.

I am the Supervisor for the City of Miamisburg Water Reclamation Facility. I am a Class III operator in charge of a 4.0 MGD activated sludge plant serving approximately 20,000 residents. I graduated from Miamisburg High School, attended Bowling Green State University for two years, and then started my career with the City of Miamisburg in 1993. I became a Class III operator in 1997, and the Supervisor in 2008. Being born and



*TOP: SW EC from left to right: Ed Smith, Kelly Kuhbander, Dave Reinker, Justin Bahar, Kevin Stilwell, Bryan McNutt. Not pictured: Chris Zdinak, Joseph Kamalesh  
BOTTOM: New President Dave Reinker thanking past president Kelly Kuhbander for her service this past year!*

raised in Miamisburg and being able to give back to my community has been one of the most satisfying parts of the job. I am proud to be a "Miamisburger" as locals are referred to, and reside here with my wife of 20 years, Cynthia, our two sons Thomas (15) and Joel (13). Outside of work, I enjoy hunting, fishing, boating, and soccer, which I coached eight years of select travel soccer, and three years as girl's assistant JV and Varsity high school soccer coach before stepping down this year.

Where did it all start, this adventure to becoming President? A push from my boss, David Reimer (SWOWEA President 2008-2009). Thank you. I joined the Plant Ops committee in 2008. I made new friendships, and challenged myself. The Southwest Plant Ops committee prides itself on being very active, holding two Op Ed days a year for operators before they take the OEPA state exams for waste water or collections licensure, a "Nearly Free" seminar in June, and responsible for the November section meeting with contact hours provided. I co-chaired the group, and then chaired the group before moving into the EC steps, but I still remain active with Plant Ops in the southwest section, and attend and help the OWEA State Plant Ops committee.

My vision for this year is to get the section back together in person as allowed. I am going to get our section back on track so we can continue to provide section meetings and tours at our local level and get to see some great facilities that have had improvements over the last 2-3 years, starting with Miamisburg hosting September 16, 2021.

Our Executive Committee for 2021-2022 will be:

- Kelly Kuhbander, Past President, Strand Associates, Inc.
- David Reinker, President, City of Miamisburg
- Justin Bahar, Vice President, MSDGC
- Kevin Stilwell, Secretary, Clear Consulting, Inc.
- Ed Smith, Treasurer, City of Mason
- Bryan McNutt, 1st year Director, City of Middletown
- Chris Zdinak, 2nd year Director, MSDGC
- Joseph Kamalesh, 3rd year Director, Stantec Inc.

Volunteering for this organization would not be possible without employer support. Thank you to the City of Miamisburg that has allowed me to attend meetings, seminars and other functions to continue to make this organization function for its members. Thank you to other Directors, City Managers, and bosses that allow their employees to grow and volunteer with the organization. Without that support it would be near impossible to do what we do for our membership.

Finally, I look forward to serving you, the members. Please get involved, as we are always looking for new ideas that come with new members. Join a committee, volunteer, and in return you will be rewarded with invaluable networks and relationships that will last a career. Please reach out to me with questions about volunteering, or suggestions for the SWOWEA Executive Committee, because we are here for you.

David Reinker, [dave.reinker@cityofmiamisburg.com](mailto:dave.reinker@cityofmiamisburg.com)



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## Certification Committee

by Kathy Beckett, Certification Chair

The past 15 months have been a time of uncertainty and change with the pandemic forcing us to make adjustments to daily activities and business practices. The OWEA Wastewater Laboratory Analyst examination only occurred in October 2020 due to social distancing requirements and space availability. I understand this is difficult on those who want to sit for the exams. COVID-19 brought to the forefront the limitations of only conducting paper based examinations twice yearly. Because of this, I am working with the Association of Boards of Certification (ABC) to transition to computer based testing at nine PSI testing locations throughout Ohio. This allows candidates to schedule a test at their convenience giving them more opportunity for test dates and locations closer to home. I am very excited about this change to the program and expect it to be implemented by autumn 2021. Applications will still be made through OWEA, but test scheduling will be made through PSI after application approval. OWEA will post the changes to the program in the near future on OWEA Lab Analyst certification webpage once the new program launches.

Email notifications for OWEA Wastewater Analyst Certification renewals will begin in October 2021. Please be sure OWEA has your most current email address and check your junk/spam email boxes if you do not receive a renewal notification email. Please visit the Lab Certification webpage at [https://www.ohiowea.org/lab\\_and\\_pretreatment\\_inspector.php](https://www.ohiowea.org/lab_and_pretreatment_inspector.php) to update your email contact information so you can renew on time and not incur a late fee.

I would like to congratulate the following individuals for passing the OWEA Wastewater Analyst examination in October 2020.

### Class I Wastewater Analyst Certificate:

Matthew Barca  
Thomas Broomhall  
Elizabeth Buening  
Matthew Fechko  
Lauren Hawkins  
Tiffany Miller  
Vivian Miller  
Warren Ollis  
Gregory Peltier  
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## Laboratory Analysis Update

by Melodi Clark and Tony Hintze

Greetings from your state lab co-chairs Tony and Melodi. Summer is upon us and things seem to be getting back to normal. Since things are slowly coming back we are hoping that we will start to get back to some in person events. We are wanting to get back to having two meetings a year to help out those going for their Lab Analyst Certifications. Please don't hesitate to reach out to Tony or myself if you have questions or concerns if you are currently getting ready to take the exam. We are looking forward to seeing you all really soon!

### Committee Mission Statement

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### Co-State Chair & NW Co-Chair

Anthony Hintze

tjhintze@gmail.com

### SW Co-Chair

Jim Davis

DavisJi@mcohio.org

### SW Co-Chair

Lori Kyle

lkyle@co.greene.oh.us

### NW Co-Chair

Terri Brenner

tbrenner@ci.perrysburg.oh.us

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nerkkila@lakecountyohio.gov

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Ann Arbor Michigan WWTP



**J.G.M. Valve Corporation**

1155 Welch Road, Suite D

Commerce, MI 48390

Phone: 248-926-6200

Fax: 248-926-6290

Email: [contact@jgmvalve.com](mailto:contact@jgmvalve.com)

Website: [www.jgmvalve.com](http://www.jgmvalve.com)



Sandusky, Ohio WWTP





# It's a lot to digest.

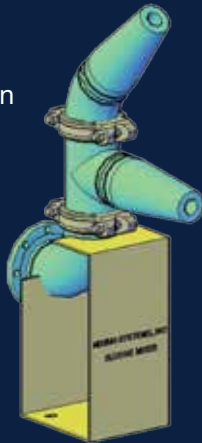


Let us help you break it down.

Mixing Systems, Inc. has been a pioneer in developing jet mixing systems since our inception in 1985. Our Hydraulic Sludge Mixing (HSM) System consists of a series of nozzles that are strategically placed throughout a tank with a solids-handling recirculation pump powering the system. These nozzles are designed to create high-velocity plumes that provide multi-zone mixing and keep solids from settling.

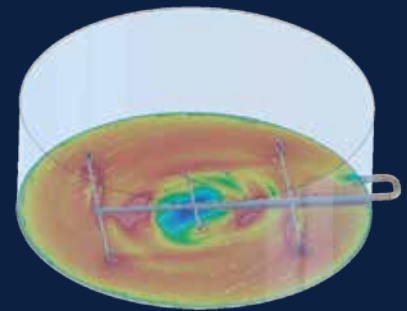
## KEY BENEFITS:

- Prevents Sludge Buildup
- Even and Complete Blend
- Solid Suspension and foam suppression
- Energy efficient operation
- Abrasion resistant nozzles
- No mechanical or rotating equipment inside the digesters
- Minimal operation and maintenance
- Can be used with various pump configuration
- Very Effective in Large and Deep Storage Tanks
- Ideal when liquid level fluctuates
- Minimizes temperature stratification



## APPLICATIONS:

- Anaerobic Digesters
- Sludge storage/holding Tanks
- Equalization tanks
- Anoxic Zones
- Water Storage Tanks
- ATAD digester tanks
- CSO Retention Basins
- Crude Oil Storage Tanks
- Biogas Tanks



In-house CFD Modeling & Simulation



**MIXING SYSTEMS, INC.**

7058 Corporate Way, Dayton, OH 45459, USA  
Phone: 937-435-7227 • Email: [mixing@mixing.com](mailto:mixing@mixing.com)  
[www.mixing.com](http://www.mixing.com)







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