

Buckeye Bulletin



ARE YOU READY FOR ONE WATER?
READ MORE pg. 14-19



CLOGGED PUMPS?

Tackle wipes and large debris with these solutions from USABlueBook!

FOR SMALLER APPLICATIONS AND LIFT STATIONS

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- Non-clog impellers handle wipes and 2" solids

FlowRake Rag Catchers

- Catch and retain flushables



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- Capture damaging wipes and debris

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Screw Pumps

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158	18022G1L	28022G1L
222	1F036G1L	2F036G1L
285	1F050G1L	2F050G1L
370	1Q065G1L	2Q065G1L
435	1Q090G1L	2Q090G1L
565	1H115G1L	2H115G1L
742	1J175G1L	2J175G1L

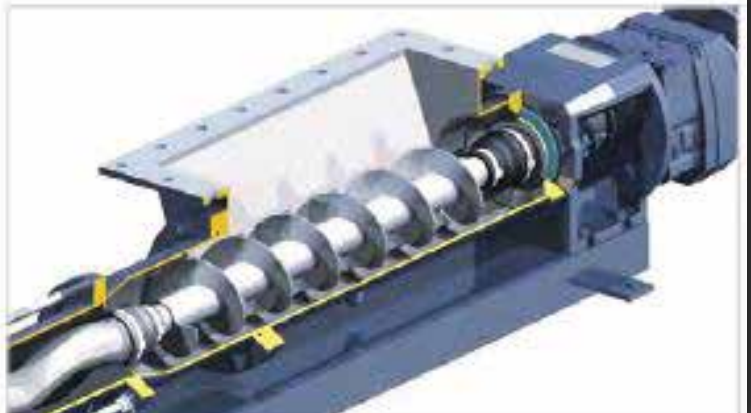
Dimensions

Model	A	B	C	D	E	F
18012G1L	42	14	8	12	1/4	8
18022G1L	55	27	6	12	1/4	8
1F036G1L	42	14	8	12	1/4	8
1F050G1L	56	26	6	12	1/4	8
1Q065G1L	42	14	8	12	1/4	8
1Q090G1L	53	25	7	12	1/4	8
1H115G1L	54	23	7	14	1/4	8
1J175G1L	56	25	7	14	1/4	8
1J200G1L	57	24	7	14	1/4	8
1J250G1L	57	24	8	14	1/4	8
1J300G1L	59	26	8	14	1/4	8
1J350G1L	59	26	8	14	1/4	8
1J400G1L	60	26	8	14	1/4	8
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1J9900G1L	60	26	8	14	1/4	8
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They say that you either pass the days “living” or you pass them “dying”. (Sounds like a bit of a morbid message – but it rings so true.) We either seize each day as a new opportunity to act, advance and grow, or we let it pass by hoping that somehow the stars will align on behalf of us. I have been studying and thinking quite a bit lately about life and purpose and have tried to stay laser-focused on “living” my days versus the alternative!



Jason Tincu
OWEA President

As I type my final OWEA President's Message, I'm reminded of this concept. Coming in as OWEA President last year, we were facing some unique challenges: a looming pandemic, an ever-changing marketplace, financial uncertainty, stagnant membership numbers, and an expiring office lease. Despite these challenges, OWEA leadership and staff chose to pass the past year “living” versus the alternative.

Just over the past year, OWEA has shown great resourcefulness, resilience, and creativity in tackling their challenges and turning them into opportunities. OWEA successfully completed the move to a new office that offers better space for

the organization. OWEA also modified its offerings to get around pandemic restrictions and to mitigate financial contractions. OWEA tapped into federal resources such as the PPP (Paycheck Protection Program) to minimize losses throughout the pandemic. OWEA is currently researching methods and opportunities to offer comprehensive Operations and Maintenance Training to the marketplace. And lastly, OWEA

has recently voted to offer a state membership in addition to the traditional WEF/OWEA membership which we feel may open up new opportunities for growth. Needless to say, OWEA has been recently passing its days “living”!

To say that this experience is surreal is a bit of an understatement. I've spent the last 19 years of my life inherently tied to this organization from section committees to section leadership to state committees to the OWEA Executive Committee. Countless hours of labor, hundreds of events, thousands of relationships, and much joy and satisfaction! OWEA has done amazing things for me personally and professionally. And it's been an honor and a privilege to help to shape the organization that has done so much for me! Now,

Upcoming Executive Committee Meetings

July 24, 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

I can feel my OWEA days waning and I'm nervous and excited about what new opportunities are out there for me.

As for the future of OWEA, it is bright, very bright! Our three amazing staff members are doing great things and seem to be thoroughly enjoying their employment experience at OWEA. At this year's One Water Ohio conference in Cleveland, I will be passing the golden gavel to Brandon Fox (City of Newark). Brandon is an experienced leader who will

continue to advance our initiatives and improve the organization!

Lastly, thanks to everyone who has helped to support me across my career and time at OWEA. Being passionately involved in this organization has been one of the most impactful decisions that I've ever made throughout my career.

Best regards, Jason Tincu (Director at GCSED and current OWEA President)

Welcome New Members

January 2022 - March 2022

Sam Aaron	Tyler Engel	Anthony McCain	Kyle Schwieterman
Andrew Bachman	Daniel Eurich	Riley McConnell	Ben Sebolt
Wrenn Bahn	Bill Flick	Mike McCoy	Tyler Simpson
Sean Bingham	Jacob Gardner	Kyla McKee	Christopher Smyth
Alex Bishop	Gary Haydel	Joe McMillen	Chris Tabler
Louis Bloom	Benjamin Haynes	Steve McNamee	Christopher Tesone
Micah Boyer	Haly Hennigan	Tyler Morrison	Chris Toflinski
Patricia Bradley	James Hetterich	Joshua Nuzzo	Matthew Turosky
Kyle Brueggemeier	Jeff Hicks	Carrie Overberg	Sarah Van Frank-Affrunti
Katelyn Casper	Michael Hinnegan	Timothy Parker	Milad Vedaie
Colin Christie	Mark Hocter	Justine Patmon	Dustin Voros
Stephanie Connelly	Scott Hostetler	John Pease	Nate Walden
Taylor Counterman	Lisa Jeter	Daneil Radziewicz	Barbie Watkins
Matthew Cutter	Brian Karl	Kyle Rawson	Stephanie Weagraff
Casey Davisson	Binod Khatiwoda	Bangxing Ren	Tom Wiesmann
James Decker	Beth Knox	Jeremy Rubenstein	Chad Wisbey
Matt DeFranco	Connor Lynch	Annaka Ruther	Mike Wright
Eric Dresbach	James MacAdam	Elie Sabbagh	Dante Zettler

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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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Executive Committee Positions Available

Interested in being part of the state executive committee? Nominations are being accepted through June 15, 2022 for the positions of WEF Delegate, Secretary-Treasurer and Vice President. If you are interested in one of these positions, send a letter of interest along with a letter of support from your employer to Nominations Chair, Fred Smith at smithfj@cdmsmith.com.

Save the Date

One Water Technical Conference
July 25–28, 2022

Watershed Workshop
October 27, 2022

Biosolids Workshop
December 13, 2022

Webinar Dates

6/8/2022 3 PM

7/13/2022 10 AM

8/10/2022 3 PM

9/14/2022 10 AM

10/12/2022 3 PM

11/9/2022 10 AM

12/14/2022 3 PM



- ★ All topics will be OM (Operations & Maintenance) Approved
- ★ One hour long
- ★ \$15 per webinar for members
- ★ Topics will include PFAS, Collections, Financial Stability, Biosolids, Emerging Technologies, & more
- ★ Conveniently the second Wednesday of every month with alternating times to accomodate various schedules

Register at www.ohiowea.org

One Water

July 25-28, 2022

Huntington Convention Center

Cleveland, OH

Let's get together SAFELY

We can't wait to see you again, safely, and IN-PERSON. While we anticipate there will still be some COVID-19 safety precautions in place, we KNOW that bringing together water and wastewater professionals will be a great time.



who should attend

- Utility professionals
- Engineers
- Young professionals
- Manufacturers
- Retired professionals

topics

- Asset Management
- Collections
- Distribution
- Ethics
- Management
- Treatment

...and much more! The full technical program will be available this spring at www.onewaterohio.org

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technical sessions



network



education



socials

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Cleveland Rocks and So Does One Water!

We are so excited to bring One Water to the home of the Rock and Roll Hall of Fame, the Cavs, the Guardians and the Major Award Leg Lamp from A Christmas Story! Just like the city, One Water has something for everyone. Whether you are looking for the latest in pumping technology on the trade show floor, want to hear about an exciting new project from a technical session speaker, play a round of golf with fellow water professionals or just spend some down time with those you haven't seen in years, you can do it at One Water 2022.

One Water will feature a schedule that will allow for the ultimate in flexibility while still honoring the traditions of both OWEA and OAWWA. This combined gathering of wastewater and water professionals is one of the largest in the Midwest. You simply HAVE TO BE THERE!

So why attend?

- Hear technical presentations by speakers from throughout the country and your backyard.
- See our Operations Challenge Teams put each other to the test, with the winner heading to WEFTEC.
- Check out the latest in products and services at the Expo which will feature more than 200 booths – you can even walk away with some great gift cards by completing our Exhibitor Passport!
- Honor the best of the best at the OWEA Awards Luncheon.
- See friends you haven't in years.

What makes One Water a MUST DO?

- Hear the latest from the top wastewater and water officials at the Ohio EPA.
- A giant Foosball table where you and 21 of your closest friends can have a friendly competition.
- Great food and drink which features some Cleveland specialties.
- You can watch your co-workers show off their basketball skills during pop a shot. Bragging rights are on the line!
- The ability to get more than 17 Contact and Professional Development Hours.
- Truly flexible evening social events that will give you the choice to check out the city or stick close to the hotel or even do a little of both.



As you can see One Water truly has it all and can't be missed! Plan now to attend – you will leave with new knowledge, new friends, and a renewed sense of purpose. It's been too long since we have all been together and YOU NEED THIS!

There are still a few sponsorships and booths available so don't have YOUR customers asking where your company was. OWEA members support those who support their association and One Water directly benefits OWEA. Booths and sponsorships offer great value and perks like complimentary registration and extra event tickets!

Check out the schedule, technical program, register or secure your booth at www.onewater.org!

One Water Thank you sponsors!

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SPONSORS COMMITTED AS OF 5.5.22

View remaining sponsorship opportunities at www.onewaterohio.org

Technical Program

Tuesday Tracks:

Water Treatment
Distribution
Wastewater Treatment
Utility Management
Potpourri

Wednesday Tracks:

Water Treatment
Wastewater Treatment
Collections
Asset Management
Sourcewater
Utility Management
Efficiency/Sustainability
Green Technologies/Stormwater
Potpourri

Thursday Tracks:

Maintenance
Wastewater Treatment
Regulatory
Operations
Potpourri
Ethics

Package	Online until 7/6/22	Onsite
Full Conference		
Member	\$445	\$495
Nonmember	\$570	\$620
Retired ¹	\$320	\$370
Student ²	\$100	\$150
Single Day Registration		
Member	\$275	\$305
Nonmember	\$335	\$365
Monday Plant Tour		
Member	\$50	Not Available
Nonmember	\$75	
Monday Add Ons		
Member Facility Tour	\$50	Not Available
Nonmember Facility Tour	\$75	
Extra Tickets		
Tuesday Meet & Greet	\$100	
Reception/Gala	\$50	
Guest Package ³	\$325	
Golf		
Foursome	\$500	Not Available
Individual Golfer	\$125	
Golf Hole Sponsor	\$250	
Exhibition		
Member 10x10 Standard ⁴ Booth	\$1,145	Not Available
Nonmember 10x10 Standard ⁴ Booth	\$1,445	
Member 20x10 Heavy Equipment Booth	\$1,945	
Nonmember 20x10 Heavy Equipment Booth	\$2,445	
Each Additional Booth Attendee (max of 2 per 10x10 space)	\$245	\$325
Listing in Exhibitor Passport	\$250	Not Available

¹ must not be currently employed and have retired membership status

² must have valid university ID

³ cannot be in the industry

⁴ premium booth space available for additional \$150

Full technical program can be viewed at www.onewaterohio.org

One Water Schedule

Monday		
9:00 AM	5:00 PM	Attendee Registration
9:00 AM	5:00 PM	Golf Outing Sponsored by  Sponsorships still available
10:00 AM	5:00 PM	OWEA Challenges
12:00 PM	5:00 PM	Exhibitor Registration & Setup
1:00 PM	4:00 PM	Facility Tours Sponsored by 
6:00 PM	8:00 PM	Welcome Event Sponsored by 
Tuesday		
6:30 AM	5:00 PM	Attendee Registration
7:00 AM	9:00 AM	Exhibitor Registration & Setup
8:00 AM	10:00 AM	Kickoff Breakfast & Keynote Sponsored by 
10:00 AM	5:00 PM	OWEA Challenges Sponsorship still available
10:00 AM	5:00 PM	OAWWA Competitions Sponsored by 
10:00 AM	5:00 PM	Exhibits Open
10:45 AM	5:15 PM	Technical Sessions
12:30 PM	2:30 PM	OWEA Awards Lunch Sponsored by 
12:30 PM	2:30 PM	General Lunch in Exhibit Hall Sponsored by 
5:00 PM	6:30 PM	Exhibit Hall Mixer Sponsorship still available
6:00 PM	7:00 PM	YP Mixer Sponsored by 
6:30 PM	9:30 PM	Meet & Greet Sponsored by 
Wednesday		
7:00 AM	5:00 PM	Attendee Registration
7:00 AM	8:30 AM	General Breakfast Sponsored by 
7:00 AM	2:00 PM	Exhibits Open
7:45 AM	5:15 PM	Technical Sessions
12:30 PM	2:30 PM	OAWWA Business Lunch & Awards Sponsorship still available
12:30 PM	2:30 PM	General Lunch Sponsored by 
3:30 PM	4:30 PM	OWEA Business Meeting
4:30 PM	5:30 PM	Women's Networking Event Sponsored by 
5:00 PM	7:00 PM	Happy Hour Sponsorship still available
5:30 PM	6 PM	5S Induction
Thursday		
7:00 AM	3:00 PM	Attendee Registration
7:00 AM	8:30 AM	General Breakfast Sponsorship still available
7:00 AM	8:00 AM	5S Breakfast* Sponsored by 
7:00 AM	8:00 AM	OAWWA Past Chair Breakfast* Sponsored by 
8:00 AM	3:30 PM	Technical Sessions
11:45 AM	1:15 PM	General Lunch Sponsored by 
12:00 PM	1:30 PM	OWEA President's Lunch* Sponsored by 

* invitation only

Sponsorships sold as of 5.5.22

- 360water, Inc.
- Aclara- a Hubbell Company
- ADS LLC
- Advanced Drainage Systems
- Advanced Rehabilitation Technology, LLC
- Akron Electric Inc
- Allied Technical Services Inc.
- AllMax Software Inc.
- Alloway
- American Cast Iron Pipe Company
- American Flow Control
- Anser Advisory
- Baker and Associates Ltd.
- Belzona
- BissNuss
- BL Anderson
- Blue Tank and Pump Rental
- BlueConduit
- Buckeye Pumps, Inc.
- Burgess & Niple
- Carboline
- Carrig & Associates, Inc.
- Chaltron Systems Inc.
- Charger Water Treatment Products
- Chem Scan Inc
- Chemco Systems LP
- Civil & Environmental Consultants, Inc.
- Cla-Val
- Commerce Controls, Inc.
- Computer Aided Solutions LLC
- Core & Main
- Corporate Equip. Co/ North Shore Pump a DXP. Co.
- CTI Engineers
- CUSI
- CWM Environmental
- DIPRA
- Dixon Engineering, Inc.
- DN Tanks
- DRV, Inc.
- Dutchland, Inc.
- eComm Construction Information Management
- EJ
- Ekoton USA Corp.
- EnviroScience, Inc.
- Excel Fluid Group
- Ferguson Waterworks/Pollard Water
- FER-PAL Construction
- Fontus Blue
- Ford Hall
- GFS Chemicals
- Gorman-Rupp Pumps
- Great Lakes Community Action Partnership
- Great Lakes Water & Waste Systems, LLC
- Hach Company
- Hawkins Water Treatment Group
- Hi-Vac Corporation
- HPT
- Hydra-Stop
- Hydro Controls
- Hydro Dynamics Company
- Inliner Solutions, LLC
- Jacobi Carbons, Inc.
- JGM Valve Corporation
- Jones & Henry Engineers
- K.E. McCartney & Associates
- KRAFT POWER CORPORATION
- Landmark Structures
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- M.E. Simpson Co, Inc.
- Maryland Biochemical Company
- Masi Environmental Labs
- M-Cor Marketing
- McWane Ductile
- Miller Energy Inc
- Molecular Repair Systems, Inc.
- MSD Environmental Services
- MTech Company
- Municipal Associates LLC
- NECO Water
- Ortman Drilling & Water Services
- Pace Analytical Services, LLC
- Pelton Environmental Products, Inc
- Peterson Construction Co.
- Primozone Inc
- Pro-Tech Systems Group
- quasar energy group
- Rawdon Myers, Inc.
- Rexa Inc.
- Riehl Systems Co.
- RoviSys
- RW Sidley Inc
- Schultz Fluid Handling Equipment
- Sherwin Williams
- Shook Construction
- Silversmith Data
- Smith Environmental Inc
- SpectraShield Liner Systems
- SUEZ Advanced Solutions
- Sullivan Environmental Technologies
- TCI LLC
- Technique Roofing System
- The Bergren Associates, Inc.
- The Parkson Corporation
- Thompson Pipe Group
- Tidal Vision
- Tonka Water
- Trihedral Engineering LTD.
- Trumbull MFG
- UIS SCADA
- Ulliman Schutte Construction, LLC
- United Systems & Software, Inc.
- USALCO
- Utility Solutions, Inc.
- Utility Technologies LLC
- VEGA Americas
- Wateropolis Corp.
- Waterworkssystems.com
- Watson Marlow, Inc.
- Wessler Engineering
- Wilo Pumps
- YSI, a Xylem brand
- Zesco Inc.

City of Defiance Water Pollution Control Lab

by Kevin Connor

Facility Name and Location:

City of Defiance Water Pollution Control
Defiance, OH

Plant Description:

The City of Defiance's Water Pollution Control Facility is designed to treat 6.5 MGD with peak wet weather flows reaching 15 MGD. Average daily flow is 3.2 MGD. We have a total of 25 pump stations, six pumping directly to the plant. We have a Parkson unit for our mechanical bar screen. Flow then travels through five primary treatment tanks, three single

pass aeration tanks, then to three final clarifiers. Sodium aluminate is added to our primary effluent for phosphorus removal. We use non-contact UV disinfection before discharging to the Maumee River. Anerobic digestion is used to process sludge, then transferred to four holding lagoons until it can be land applied to local farm fields each summer.

How many analysts/technicians work in the laboratory?

Three. Our Laboratory Chemist works in the lab full time. The Chief Operator oversees the lab and fills in when needed. We have an operator that helps with process control samples when needed.



Do you accept samples from outside sources?

No. On occasion we will run ecoli samples for the health department but we are not a contract lab.

What analysis do you perform?

Alkalinity, Ammonia, BOD/cBOD, COD, E. coli, pH, TSS/TVSS, UVT, and volatile acids.

Other duties your laboratory is responsible for?

The lab is responsible for maintaining and calibrating all lab equipment. Monthly river samples are collected and analyzed for our NPDES permit. Five industries are analyzed monthly for high strength COD/TSS for the surcharge program.

Do you use a contract laboratory?

We use Alloway (Lima, OH) for bioassay, metals, O & G, and phosphorus, and any other special sampling.

Do you have any permitted industries?

We have ten significant industrial users on the pretreatment program. One industry is a categorical user. All ten industries are sampled quarterly for metals and pH. Once a year each industry is sampled for O&G and low-level mercury.

Have you assisted with any pilot studies or uncommon testing?

In 2017, our plant ran a UV pilot study on an Enaqua system. This required extra sampling to make sure



Lab Profile

the Enaqua equipment could disinfect a low UVT effluent during periods of high flows with increased river water in our system. We also had to run additional tests during dye events we occasionally receive from a local industry. The results were successful and the system was installed in June of 2020.

During the pandemic our lab sent samples to be tested for the COVID 19 virus to Biobot laboratory in the Boston area. (Spring 2020 – Fall 2020)

WPC lab is still sending samples to the University of Toledo who is partnering with the Ohio Department of Health to track COVID 19 in our influent. Like

many other communities in the state the results are posted on the Ohio Department of Health's website. (Fall 2020 – Present)

Is there anything else we should know about your Laboratory?

Over the last five years our lab has worked with numerous Soil and Water districts in the tri-state area collecting and analyzing river and creek samples in the Upper Maumee Watershed. We are using the data to plan for future water quality projects to reduce nutrient loading and protect the water at the water treatment plant's intake.





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A Chat With Mike Maringer

Interview by Megan Borrer

STAFF: I was hoping you could give me some background on yourself and your involvement in the industry.

MARINGER: I began my career making tomato soup for Campbell's Soup. I was working in the plant and around November they had a layoff because all the soup is made in the summer months for the winter months.

So they said, "Mike, we don't want to lose you as a production supervisor, but we have these cutbacks. Would you want to become a guard?" And I said, "Well, I just got married, I need a job, so, yeah."

One night, I'm going with the guard lieutenant, and said "What's this building?" He says, "The water treatment plant." I said, "Well, I studied that in school." And he says, "We got to go in there and punch a clock." We get in there and the guard lieutenant said, "Warren," he was the second shift operator, "Show



this guy around." Two weeks later, I was Warren's boss. That's how I got into the water plant at Campbell's.

Campbell's Soup had a very large water and wastewater treatment system. It's a 15 MGD water plant and a 12 MGD wastewater treatment plant, assisted with a six and a half million gallon per day spray irrigation field. So,

both of that needed to be Class IV plants by today's standards. I had to go and get my Class IV in both water and wastewater. That's how I got my double four certification.

My boss, his name was Herb Salsbury, was an instructor for wastewater and water and he got me involved in that. In 1995, I wrote the Advanced Wastewater Workbook for OTCO. I rewrote and revised it in 2008 with John Motycka, he was a student of mine. I've been doing teaching for roughly

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.



just under 40 years mainly in the northwest corner of the state.

In the field itself, having a double IV, I began to do some work when I left Campbell's, and retired, I created an LLC called NAIAD. I do studies for plants. I do studies on their mercury variance plans, stormwater pollution prevention plans, and just some general plant operations. Also, doing some work with Jon van Dommelen from the Ohio EPA on nutrient removal. We're doing that at Niles, Ohio and also, at Archbold, Ohio right now.

In 2008, I was selected as a delegate to South Africa. I was there with mainly wastewater treatment people. We went and visited a coal mine where they were reusing their water through reverse osmosis. I asked that gentleman what he did with their brine, he told me, "You Americans eat that." So, I had to dig into that a little bit further and found out that he said that's where beta carotene came from. Well, I was always told it came from carrots. When I got back to Napoleon, Ohio. I bought my first bottle of beta carotene. And there sure enough, there was the *Dunaliella salina* algae on the label, just like he had told me. Shortly after that, I met a fellow, and his son. The son was working on an algae research project while getting his PhD at the University of Michigan and they asked if I would join them. I agreed to that. I told him I already had a job but that I could be a consultant. And he said, "Who's having problems?" and I said "Rumpke in Cincinnati with their leachate." We went down there and did a pilot, cleaned up their wastewater and took out the nutrients. Then Geoff, the PhD student, extracted beta-glucans from that. Geoff formed a company named Algal Scientific and built a 2.0 MGD Wastewater Treatment Plant for Anheuser-Busch at Idaho Falls, Idaho. Geoff

eventually sold the technology to Kemin Industries out of Iowa. They take beta-glucans from algae and sell it worldwide now. So these are some of the things that I've been involved with.

One other one, a girl came from Bowling Green State University when I was still at Campbell's, wanting some of my bacteria from the trickling filter plant. I said, "What are you doing with this?" And she said, "I'm going to make bioplastic out of it." I became very interested in what she was doing and asked "if I could get involved." Joy was a post-doc from the Philippines, We used the bacteria *Rhodospseudomonas palustris* and extracted Polyhydroxyalkanoates (PHA) a polymer, from the specialized bacteria. We were able to make a small portion of bioplastics from the Lucas County's Water Resource Recovery Facility in Waterville, Ohio. Joy since has returned to the Philippines and works with the Philippines Institute of Technology. Currently there are two girls in San Francisco making bioplastics, the company is called Mango Materials and they have just gone commercial. They're doing the same thing using methane gas to feed their bacteria. So, I'm real excited about that.

That is one thing I think our young operators need to know, that the field is growing beyond just wastewater treatment. There's, all these products that we can make from wastewater and we're going to need operators not only for our municipal and our industrial plants, but also, for these new startups that are occurring where they're making products from wastewater.

So that's kind of a long story on where I'm at today. I started this LLC and doing some work with Vermilion, Niles, Sandusky, Coshocton, and Wooster. Mainly in the areas of stormwater pollution prevention plans,

mercury variance plans, and also just plant studies, improving their operations. I hope that explains a little bit.

STAFF: You have quite the reputation with all your teachings and your presentations over the years. When did you first realize you were passionate about teaching?

MARINGER: I get my excitement when I hear my students pass their certification exam. I remember how I felt and it was such a good feeling, the security of having a certified license, especially from the state of Ohio. It's recognized all around the country now and we're finding, even around the world. It just really made me feel well to know you have that type of security. When I see these students getting their certifications, it's just like getting mine all over again.

STAFF: What advice do you have for young operators?

MARINGER: First off, I recommend them to keep going after their certifications. Also, join OWEA because of the contacts that you meet when you go to district meetings. What's so valuable is that you talk to other operators, and the next thing you know, "Hey, they've got problems like I've got problems," and you start saying, "Well, maybe it isn't me, it's the industry we're in." [LAUGH] "Maybe I'm not doing everything wrong." It's just a real good sense of meeting these operators that you can always reach out to them.

A lot of times we have these operators pass their Class I's and then they sit back and the next thing you know, they say, "Well, I think I'll go for my Class II." And when they've waited too long and they forget the formulas and they forget the terminology it's like starting over again. Especially if they don't use it every day. So those are the two main things I've found out over the years is to stick with it and also join an organization like OWEA. That way they're going to stay in contact with these operators.

"WHEN I SEE THESE STUDENTS GETTING THEIR CERTIFICATIONS, IT'S JUST LIKE GETTING MINE ALL OVER AGAIN."

I did a course for Northeast Ohio Sewer District and they had a program called the Ambassador Program. They brought in these high school students. I spent a summer with those young students, they took their class one exam, passed it, and walked off the stage with their high school diploma and a \$55,000 a year job offer from Northeast Ohio Sewer District and a guarantee of \$85,000 with overtime. Now how many high school students can have something like that at graduation?

We're trying to get that word out and all these places are hurting for operators. I get job offers at my age and I got young people in their 40s and 50s that can't find work. And I'm thinking holy cow. Just look at your job board at OWEA, it goes on for pages where they're looking for operators.

So how do we get them? How do we get these young people? I'm really glad to see the organization is trying to reach out to these young people because we need them bad. We had the baby boomers, they're retiring. Then, just the lack of children, we've all cut back because of finances. And now here we are, we're lacking manpower.

One other point I would like to make: Electronics. We are moving more and more into a world where sensors are going to be a very big part. And I always tell my students, try to get a little electrical behind you. Not that you have to be an electrical engineer, but at least get some of the terms, get some of that behind you. Because I came from Campbell's Soup and to give you an idea, when I got there, we were making tomato soup at 400 cans a minute with 2,700 employees. The day I left that plant, they were making 1,200 cans per minute with 1,000 employees. And all that is through robotics and automation. I always encourage young people to get some electrical behind them. Just basic courses will be a big help.

STAFF: How has the industry changed throughout your career?

MARINGER: Well, I just was at a plant today and on the side of their building it says 'Water Pollution Control Plant.' And now I'm sitting here and I'm telling you how we're starting plants up that are going to be reusing wastewater for the drinking water plants. They just had a conference on this in Washington, DC. Also, we're talking about making these products from wastewater. So rather than looking at it as a negative, we're making products. Well, that's the name they want us to use is a resource recovery. And we're definitely moving in that direction. You go to Los Angeles, that's how they're doing it out there. They take their 70 MGD from the wastewater plant and take it through an intermediate drinking water plant through reverse osmosis and membranes. From the intermediate plant it's pumped into a well and held before being pumped to the conventional water treatment plant. That's definitely what I've seen as the major changes.

STAFF: Is there anything else that you'd like to share with the membership?

MARINGER: Well, yeah, the one thing, when I give a presentation, I always thank the operators for what they're doing. I mean, I show a slide of 1969 with the Cuyahoga River on fire and now, look at where we're at today. I'm looking out at Lake Erie right now in Vermilion, and I see fishing boats out there. I see a lake that is getting clearer every day. It's the work of these people doing that, that I really want to thank them. Because I saw how the lake was when we had algae blooms and we had those fires on the Cuyahoga River, and just think where we're at today and the improvements we've made through the regulatory agency, the operators and the engineers.

Another thing I'd like to point out would be what that certification means that they hold, the security of it. Also, to know that it's needed around the world. It's not just Ohio or the United States. I was offered homes when I was in South Africa. They said, at the end of the two weeks, any home that you wanted, it's yours. If you want to overlook the Indian Ocean, it's yours. They said, we don't have people like you. We don't have trained operators. And that's what I think a lot of our young people have got to understand that it's more than a job, it's a career. I think that's important for them to understand.

Also, that we're looking at more than just cleaning up the water. Now we're talking about making products from wastewater, and we're already doing that. Look at bacterial cellulose, bioplastics and energy just to name a few.

WATER's (definitely) WORTH IT!

Just ask the City of Lancaster

by: Michael Frommer, PE, Arcadis

Contributing Author: Kim Seidelmann, PE, Arcadis

Recent events at the City of Lancaster have helped me truly understand the importance of water (both drinking water and wastewater) and understanding how our local water actions lead to changes that impact the WORLD. My career path has taken just over 25 years—hard to believe—and has included stints as an engineering consultant, utility director, plant operator and administrator; allowing me to witness firsthand that water is a key element in three pretty amazing aspects of life: improving human conditions, fostering growth, and proactively changing the world. Understanding how utility preparation on a local level can lead to job growth, education, consumer products, and upward mobility that affects not just the local community, but the whole world is where the City of Lancaster has impacted me the most. I'll share with you the evolution of my perspective while focusing on Lancaster's vision and what they've done to demonstrate how preparation in the past helped shape life for generations to come in their community and beyond.

In the spring of 2012, WEF launched the WATER'S WORTH IT campaign focused on the value and importance of clean water and its supporting infrastructure. As we all know, water is a foundational pillar to many basic human needs: health and safety, a clean environment, and all-around quality of life. At the time, I was Vice President on the OWEA



Executive Committee and had experience planning and designing utility improvements such as water main extensions to provide safe and reliable service; centralized sewer systems to eliminate failing septic systems and improve water quality in local streams; and new treatment plants that produced safe drinking water and treated wastewater. I had seen firsthand how our work locally improved the human condition but once construction was complete in places like Waldo, Chesterville, and Lore City, and the crews moved out of town, I just hadn't fully realized how local water improvements sustainably foster a strong economy and promote long-term job growth within a community.

In 2016, I joined Delaware County, one of the fastest growing areas in the Midwest. Candidly, it was a very different experience, as they had an exceptional record on environmental compliance—

not much of the local ‘condition’ needed improved. The Regional Sewer District had eight existing treatment plants that discharged to three drinking water sources and a scenic river. But as I quickly came to know, progress on many new development projects had come to a halt throughout the County because we were lacking a long-range plan for how improvements and changes should unfold. The very mechanics of how we provided changes and updates “bottlenecked” the growth the County was seeking. We had a great deal of potential, and plenty of land to implement the plan, but couldn’t (at the time) simply get out of our own way.

By 2018, we mapped out a long-range plan for the County’s sewer system, both plants and collection system, prepared a hydraulic model, and hired a very experienced modeler in Central Ohio to run the model daily. The long-range plan carried with it a significant 10-year capital improvement plan and a road map for expansion of the infrastructure for the next 50 years of growth. And here’s the punchline: we succeeded. The District had set a record of new connections in 2020 and then exceeded that record again in 2021. For me, achieving those

milestones really demonstrated the success of long-range wastewater planning, and mapping a strategy for growth. But the growth was here, confined to Delaware County.

I joined Arcadis in January of 2022, shortly after Intel announced their \$20B investment in Columbus. As you’ve probably heard, Central Ohio will soon be the home of two leading-edge microchip factories that will help boost production to meet the surging demand for advanced semiconductors. This mega-project may be the most exciting economic development project to ever hit Ohio. Intel needs 20 mgd of water, making water supply and treatment a critical player in the success of this new, major economic development in our region. This site will ultimately bring 20,000 jobs to central Ohio with an average salary exceeding \$135,000 annually. The resulting job growth, economic development, and community impact will shape the future of central Ohio for years to come. The preparation, understanding, and forward-thinking of the City of Columbus enabled the water and wastewater systems to provide the backbone for development of this scale in the City and surrounding communities, benefiting not only Ohio, but people around the world.

Once at Arcadis, I learned that the City of Lancaster was in the process of building a new water treatment plant and expanding the Upper Hocking Water Pollution Control Facility. The projects are fast-tracked because America’s leading internet search engine and product service company had purchased 120 acres in the City with plans to construct a data center that would result in a \$1 billion investment into the community. As you



2008 Upper Hocking site plan with future build out

guessed, water is very important for a data center with average water demand upwards of 2 mgd, and a peak water demand in the range of 4 mgd, as well as a wastewater discharge of roughly 0.5 mgd to 1 mgd. Furthermore, for the data center project to become a reality, they needed the water in less than three years. This was no small task as it required the City to increase its existing water production by 50% and double the capacity of its Upper Hocking WPCF.

The Mayor declared this to be the largest economic development in the City's history and likely the start of other high-profile projects putting down roots in Lancaster. This data center will provide millions of dollars in property tax revenue to the local community, add high wage jobs, and help elevate the business portfolio of the community, which will result in additional high profile economic development projects in the future. Those future projects will also provide the community with you guessed itmany more major capital investments, more property tax revenue and creation of more jobs.

Most residents in Lancaster will point to the time when American's leading internet search engine company moved into their community as the moment when their good economic fortunes started. I would suggest these good fortunes started when the City's Water and Water Pollution Control departments were able to increase water production by 50% and increase wastewater capacity at Upper Hocking WPCF by 100% in just a few short years. Most utility departments would have looked at the timeframe required to provide these significant water and wastewater needs and declined this once-in-a-lifetime community opportunity because they didn't have a plan in place. Lancaster understood

that water can change the world and they had already been constantly thinking, planning, and preparing for the moment they needed to spring into action. They planned, designed, and constructed every project with expansion in mind as it's in their DNA. As for the secret recipe, they invest funds wisely in the planning of their systems, they monitor the on-going performance through models, and they secure the necessary sites and resources to implement their expansion plans. Ultimately, all their planning and preparation efforts came to fruition in 2021 and their city officials were able to say "yes" to the requested water and wastewater capacity needed to allow the City to secure this transformational economic development opportunity, and change the City's future. The City of Lancaster had always understood the importance that water plays in the future of their COMMUNITY. And this time, they surely walked the talk.

So how did the City prepare for an opportunity they didn't even know was coming? The City has prioritized staying on top of knowing their system capacity and has put several major pieces in place to monitor the performance of their water and wastewater collection system, water distribution systems, and all four of their water and wastewater plants. They completed a water master plan in 2005 that included an aggressive growth plan and they have been diligent in following the original blueprint and implementing the growth-driven options for their water system. In the years between the completion of the Upper Hocking WPCF and now, the City took the effort to ensure the Wastewater Long Term Control Plan, completed in 2014, was up to date, staying on top of the changes that occurred in their system. In addition to the Master Plan and Long-Term Control

Plan, the City maintains models for both their water and wastewater systems and ensures that major changes to the systems are updated in the models. This proactive approach gives them the flexibility to quickly and fairly easily determine not only the status of their current system, but the effects of major changes to their systems, such as a large user coming to town with short notice.

For the water demand, the City operates two water treatment plants to provide system redundancy and meet the water needs of its customers throughout the City. The oldest of the water plants is in the heart of the City's downtown and was originally constructed in 1932. The treatment plant had been scheduled for replacement due to its age. To meet water demand of the new data center, the City working with Arcadis, was quickly able to evaluate infrastructure planning that was needed to obtain the 50% increase in overall system production and deliver the water quality and quantity required to the subject site.

Thorough analysis of the City's water demands, water quality, and softening options showed that a membrane softening treatment plant (similar to their newer South WTP) to replace the existing ion exchange plant would provide the most benefit to Lancaster's customers. The new membrane plant would produce water with minimum hardness and total dissolved solids—meaning less water needed by the new user and less contaminants in the discharged wastewater. The water supply and treatment recommendations in the original water master plan were used as a guide and the current water system model was used to determine how best to deliver the water to the site. The design of the facility was started in the fall of 2021 and will be

completed in June of 2022, operational in 2024.

As for wastewater, the City has two wastewater treatment facilities: the original Lawrence Street WPCF in the southern portion of the City and the newer Upper Hocking WPCF. The data center user approached the City and requested about 1 mgd of wastewater capacity from the Upper Hocking WPCF. The Upper Hocking WPCF was operating at very near its 2-mgd capacity so an immediate expansion of the treatment plant was necessary to accommodate the data center and other potential users in the City's industrial park. Fortunately, expeditious expansion of the facility was possible due to the City's previous planning efforts that resulted in a modular construction of the Upper Hocking WPCF—the VLR/Membrane facility was designed to be readily expandable in three 2-mgd increments.

Many of the phase 1 detailed design decisions for the Upper Hocking Facility were made with expansion in mind and extra effort was put forth to accommodate the full facility build-out. Room layouts were arranged to allow space for additional equipment and piping. The hydraulic profile considered future design conditions, which easily allowed the plant to stay online while subsequent phases are constructed. The immediate expansion of the facility was further streamlined because most of the original Phase 1 design team from both the City and Arcadis were involved in the original design and the expansion design. The phase 2 project was bid in early 2022 and construction is to be completed and operational by mid-summer of 2024.

Data centers are vital to the continued growth of the U.S. economy and support of the ever-increasing

Technical Article

business economy provides a platform for innovation. These needs seemingly increase daily. The ability of Lancaster, Ohio to quickly analyze their system and provide water and wastewater treatment for the leading internet search engine company impacts not only Lancaster, but businesses throughout Ohio, the United States, and worldwide. Pretty amazing, don't you think?

I can now say that I fully understand the importance of WATER and how the extraordinary efforts by good public civil servants, from Chesterville to Columbus to Delaware County and Lancaster shape the world around all of us. Today, I can only encourage you to find your own tomorrow for your COMMUNITY, through water.

Consider creating a system growth and development road map and see where it takes you. Gain a thorough understanding of your existing systems so you can quickly evaluate significant changes and accommodate life-changing opportunities. Design and construct your current projects with expansion in mind. And proactively explore options to increase your water and wastewater capacity. You never know when Google, Intel, Facebook, or Amazon might come knocking on your door.

Mine has been an amazing journey and I can confidently say, albeit eight years later than I had wished, but with the understanding of the full impact, that WATER'S WORTH IT!

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We are pleased to announce Christen Wood, PO has joined Jacobs as part of our growing water team. One of the first people to qualify as a Professional Operator (PO) with the Certification Commission for Environmental Professionals, the industry's first professional designation for wastewater and water operators, Christen brings a wealth of utility operations knowledge and leadership to Jacobs.

Christen has also been dubbed "one of the wastewater world's top performing artists" by WEF Highlights for her singer/songwriter debut hit "We treat the water (right)."

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Stream Revitalization in Central Appalachia

by Michelle Shively MacIver, Director of Product Development, True Pigments

Imagine a world where Appalachian streams run clear, where vibrant economies flourish in historic coal towns.

Those of us who live in Appalachia know that more than 6,650 stream miles in Central Appalachia run orange due to the impact of acid mine drainage (AMD). Ohio claims 1,300 of those stream miles. Although most of the mines that caused this drainage were long ago abandoned, this legacy of pollution is expected to continue for decades. Water flowing from these mines pollutes local streams with metals like iron and aluminum and high acidity that make it almost impossible for fish and aquatic bugs to survive. These orange streams flow through old mining towns that have struggled to find new economic opportunities since the coal companies left.

Our history may be one of extraction, but our future is one of innovation. The mines of

Appalachia fueled the cities that created the middle class. Although the wealth created by Appalachian labor now belongs to others, we remain proud of our mining heritage and our role in building the America we all know today.

At True Pigments, we're using innovative technology to revitalize streams devastated by historic coal mining, taking a pollutant -- a waste product -- and turning it into a commodity that will pay for the restoration of streams long impacted by acid mine drainage, creating jobs in rural communities, and funding more watershed restoration projects.

Our work rests on a strong foundation of more than 25 years of partnership between Rural Action, Ohio University, the Ohio Department of Natural Resources- Division of Mineral Resources Management, the Ohio Environmental Protection Agency, the Office of Surface Mining,



Truetown and pigment



and local foundations. Through this public/private partnership, our team blends our unique experiences and expertise to create an enterprise that sits at the intersection of watershed restoration, environmental engineering, social enterprise, and art. The technology was created in Dr. Guy Riefler's civil engineering lab at the university. Through professor and artist John Sabraw's paintings, we've been able to reach so many more people and bring so much awareness to our work. Art speaks to people in a way that science just cannot.

We've already secured nearly \$4 million for Phase I construction and the purchase of 48 acres surrounding the worst AMD discharge in Ohio where our first treatment system will be built at the Truetown Discharge located in Millfield, in Athens County. Funding from the Ohio Department of Natural Resources – Division of Mineral Resources Management's AMLER program will pay for engineering, site development, earthwork, and infrastructure.

Our facility works more like a wastewater treatment plant than a traditional AMD treatment system. First, we'll pump mine water from the underground mine pool to the head of the plant. From there, we'll run through all the processes you'd expect in a wastewater treatment plant - aeration, clarifying, and settling. At that point, the iron sludge and water split paths. We will treat the acidic water with lime before it enters a treatment wetland before being discharged into Sunday Creek with almost no iron and bringing the pH back to normal. Back at the facility, the iron oxide is dried and processed into pigment before being packed and shipped.

The iron oxide market has fluctuated due to covid and recent events, but largely is a stable market and a consistently priced commodity. The US iron oxide market is valued at \$335 million, and the US uses about 240,000 tons of pigment each year. Eighty-four percent of that is imported, much of it from China. The events of 2020 dealt a hit to iron oxide prices, same as many other sectors, but the market is expected to rebound to pre-pandemic levels.

Not only will True Pigments clean up the largest acid mine drainage discharge in Ohio, this social enterprise will also produce a profit that allows us to invest those funds back into additional watershed projects. It's a chance to help build a resilient economy in Appalachian Ohio centered on social enterprise while restoring water quality on abandoned minelands.

According to the Voinovich School at Ohio University, for every \$1 invested in True Pigments, we will return \$15.97 in social and environmental benefits. We will have \$2.1 million in economic impact in our first year of operations. Indirectly, there's a whole distribution chain of jobs that will be positively impacted or created by this project. Not to mention, the proof of concept of this technology can then potentially be replicated across Appalachia at other mine discharge sites, creating an even larger domestic source of iron oxide pigment and cleaning up more degraded stream miles.

Our first foray into the market was a collaboration with Gamblin Artists Colors out of Portland, Oregon. They produced a limited edition, 3 color box set of oil paints created with our 3 colors of

pigment harvested from AMD streams right here in Southeast Ohio. This set is available for purchase on our website. More than 7,500 sets have been sold worldwide and Gamblin is gearing up for focused marketing on this set later this year.

Although we're not the first to use AMD as a source for iron oxide, our innovative process is different. Our technology allows us to harvest large amounts of iron and treat large amounts of water with relatively small space requirements when compared with those systems. We believe we can treat many other mine discharges by replicating this technology across the region. There are plenty of AMD sites in our neighboring states for potential replicability. We negotiated an agreement with Ohio University to obtain exclusive rights to the intellectual property surrounding Dr. Guy Riefler's patented process that covers most of the Central Appalachian states and allows us to sublicense the use of the technology as well. We're currently operating a pilot system at the largest AMD site in Ohio and designing the full-scale facility. We plan to begin full-scale operations in early 2024.

We've found that this work really resonates with people! Even those who don't live in Appalachia or know anything about AMD can appreciate the idea of creating something beautiful and useful out of some really devastating pollution. Our project has garnered nationwide media coverage, being featured in National Geographic and TIME Magazine, and we've been awarded the JM Kaplan Innovation Prize. It's hard to find the downside of this enterprise when we're able to clean up water pollution, create a more sustainable, environmentally friendly, domestic source of iron oxide pigment, and create local jobs, all while

funneling profits back into more water restoration projects and creating a viable business! At True Pigments, we're creating colors for a cleaner world.

During my time as Sunday Creek Watershed Coordinator, 14 miles of the West Branch of Sunday Creek have improved chemically and biologically to meet Warm Water Habitat criteria. At one monitoring site, we went from finding ZERO fish before AMD treatment to finding seventeen species of native fish that had returned!

My drive to do this work comes from a profound belief in the natural world's inherent value and right for existence, along with a deep concern for my fellow humans. The fish, macroinvertebrates, and other aquatic organisms that formerly lived in streams decimated by AMD deserve to be in those streams. The people who live in the old coal towns near these decimated streams deserve to live in an unpolluted environment where streams don't run orange—and deserve to have access to meaningful jobs they can use to build a life and family in this region. I consider AMD and abandoned minelands an environmental and social justice issue. I believe that if these rivers were running through a more populated and affluent region, many of these issues would already have been addressed. Healthy people need healthy environments, and healthy economies need healthy people and healthy environments. Reclamation of abandoned minelands and treatment of AMD has positive impacts on the economic health of a region and its people. True Pigments is just one piece of this effort – creating colors for a cleaner world!



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The Good and the Bad of the Current Utility Funding Environment

by Doug Baldessari, CPA, Baker Tilly Municipal Advisors, LLC,
OWEA Utility Enhancement Co-Chair

Utilities have a remarkable opportunity to leverage federal funding from the American Rescue Plan and Infrastructure Bill to support infrastructure projects. This funding includes billions of dollars to upgrade aging utility infrastructure and improve utility system resilience as well as various grant programs. With the largest investment in water infrastructure in U.S. history this is a great time to fund your utility project. By the time this article comes out Ohio will likely have provided pertinent information related to funding opportunities for Ohio water and wastewater utilities available through the Federal Infrastructure Bill. The opportunities for low interest loan and grant funding will be significant, so make sure your utility is ready to take advantage of this once in a lifetime opportunity.

What is not so good are the rising interest rates on long-term debt which are still low historically but higher than we have seen in recent years. Even more concerning are the significant cost increases we are seeing currently on utility infrastructure

projects which are coming in well above preliminary estimates. The financial plan and utility rates and charges were likely based on these lower estimates causing many utilities to look for more grant funding and additional increases to utility rates and charges.

In these turbulent times its more important than ever to have an effective financial strategy to plan for and take advantage of the infrastructure grant and loan opportunities. A good financial strategy related to funding the non-grant funded portion of the project can make a significant difference in maintaining affordable rates.

In summary yes, it is a great time to fund your utility project, but it could have been better.

Doug Baldessari, CPA

Partner, Baker Tilly Municipal Advisors, LLC

doug.baldessari@bakertilly.com

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- Students must be enrolled in a minimum of 6 credit hours in an accredited college or university.
- Encourage students to apply for a free year-long OWEA/WEF membership at:
<https://www.ohiowea.org/membership.php>

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Debunked Pump Myths

Setting the record straight on system design, setup, and maintenance

by Peter Gaydon, Director of Technical Affairs for the Hydraulic Institute

Originally appeared in the November 2021 issue of Water Environment & Technology magazine. Reprinted with permission from the Water Environment Federation. All rights reserved.

Pump system misconceptions create missed opportunities for greater efficiency and cost savings.



With pumps typically accounting for 40% of the energy use in industrial fluid systems, facilities cannot afford misunderstandings around the technology and its requirements. Whether for food and beverage production, wastewater disposal, or anything in between, designing your fluid system with these five truths can make the critical difference in operational success.

MYTH 1: Buying and installing the system is the most expensive part of pump system ownership.

TRUTH: Many people assume that the initial purchase and installation costs are the most expensive aspect of a pump system's complete life-cycle cost. In reality, energy and maintenance are responsible for the lion's share of system expenses. A typical pump system, for example, often boasts a lengthy lifespan of more than 20 years. Throughout this period of ownership, it is likely that 65% or more of costs will go toward keeping it operational (energy and maintenance). The original purchase and install make up less than 20% of costs. Choosing

a less expensive system or installation process can result in an even greater disparity in these percentages. Considering this ratio, it is important to understand total

life-cycle cost and how purchasing the most efficient pump that is properly selected and controlled for the system will cut costs over time versus getting hung up on the initial price tag.

MYTH 2: Pumps are often the source of an entire system's operational inefficiency.

TRUTH: As with many technologies, efficiencies — and a lack thereof — stem not only from efficient equipment design but also from proper sizing and operating methods. Inherently, pumps offer relatively high efficiencies, however, their operational efficiency is tied to system design and operation. For example, the most efficient possible pump could be used and operated at its best efficiency point, but if the system requires less flow or pressure than the efficient pump is providing, the system is operating inefficiently. Remember, the operational requirements that draw energy, such as flowrate and pressure, are requirements of the system. System

design should precede pump selection and include careful considerations around how the setup uses energy, identifying ideal pump size and flowrates. Understanding what level of pressure — or head — the specific system requires, and how it will vary over time, will guide optimal pump selection and control. After these system requirements have been considered, the Hydraulic Institute (HI; Parsippany, New Jersey) Energy Rating Program provides a resource to select the most efficient pumps, comparing energy consumption rates for pumps and systems in the marketplace and advising on potential power savings from system upgrades and changes. Using such resources, along with a system-focused approach, will yield the greatest improvements in energy and maintenance efficiencies.

MYTH 3: The technology used for pump systems is dated and unsophisticated.

TRUTH: Today's pumps are not your grandfather's pumps. Technology has advanced to make pumps — and their interaction with the system — increasingly agile and intelligent. The introduction of smart pumps creates an adaptive system that knows the pump's performance parameters, analyzes activity and can adjust pump operations in response to demand. Using these learnings and adjusting the control can minimize downtime and increase efficiency (i.e., automatically changing control pressure setting based on a building's actual heating or cooling demand).

MYTH 4: Pumps are typically unnecessarily oversized.

TRUTH: If and when pumps are “oversized,” meaning a safety factor is built in, it is to account for uncertainty in flow and pressure requirements, and sometimes future demands. It is important to consider this uncertainty because having a pump that is undersized for the demand will result in poor utility. In these cases, close management at commissioning can ensure that unnecessary power consumption is not occurring.

To limit the effect of an oversized pump, implement proper commissioning when the pump is installed and determine if the system can be balanced to limit flowrates, if a smaller impeller will reduce power consumption or if a control setting can be adjusted and still meet the system requirements. In systems that have variable conditions, it is likely advantageous to purchase a pump that includes a variable frequency drive, which can also help with oversizing by reducing the maximum operating speed to meet the system's actual requirements.

MYTH 5: Variable speed drives always increase pump efficiency.

TRUTH: When variable conditions exist, think of throttling the pump flowrate with a control valve akin to adjusting speed in the car with the brake, but not taking a foot off the accelerator. There is no question that variable speed pumping can boost system efficiency, but a common misconception is that simply adding a variable frequency drive is enough to improve system efficiency. In truth, there are a few more boxes to check when implementing the functionality. Does the system require variable operation? Does the system contain instrumentation to measure the system variable (i.e., pressure, flow,

power, temperature, etc.) and feedback so that speed can be adjusted to meet a set point for this variable? Adding a variable speed drive to a pump without these considerations will not result in energy savings. Instead, approach this technology with a sense of how it will fall into your complete system and plans for extracting the right information.

Facility designers, managers, engineers, and other pump system professionals can lean on industry authorities, such as the Hydraulic Institute, for the latest guidance in pump selection, optimization, and critical standards for operational efficiency. As the industry continues to evolve and adapt to heightened production demands and changing regulations, having a keen understanding of pump technology will foster a more cost-effective, responsible operation.

Experts Laud the Most Influential Guidance Advancing Pump System Design

Engineers, architects, and system owners should find the most efficient paths to pump system solutions. The rising tide of standards plays a significant role in elevating the performance, reliability, and quality of pump systems — minimizing the trial and error it often takes to arrive at the solutions best suited for the application. However, some standards stand out for the magnitude of their effect. Three pump experts weigh in on the standards they believe have brought about the most significant or lasting changes in pump system design.

Success Starts at Setting Testing Procedures

The Hydraulic Institute (HI; Parsippany, New Jersey), is an accredited standards development organization by the American National Standards Institute (ANSI). HI has published 35 pump standards and guidelines, most of which reach consensus via the ANSI essential requirements and are then published as American National Standards. That makes it difficult to narrow the list down to the most transformative guidance, but a few stand out as being particularly necessary to the industry, including ANSI/HI 14.6 Rotodynamic Pumps for Hydraulic Performance Acceptance Tests.

ANSI/HI 14.6 is so important because it creates common ground criteria for all manufacturers to follow for testing equipment as well as common criteria for acceptance of that equipment. An end user can request a pump to a specific acceptance grade and have assurance the pump will perform properly in the field. That is a level of specificity, understanding, and efficiency that would not be possible without this standard.

Peter Gaydon, Director, Technical Affairs for the Hydraulic Institute

Intake Design Standards Minimize Time Spent on Scale Models

In the Army Corp of Engineers, we design water pumping infrastructure as part of our civil works mission. In doing so, we use many submersible pumps, so we reference ANSI/HI 11.6 Rotodynamic Submersible Pumps: For Hydraulic Performance, Hydrostatic Pressure, Mechanical and Electrical Acceptance Tests, for the unique testing of submersible motor pumps. This standard requires that the submersible pump is guaranteed and tested as a complete close-coupled unit. Another standard we utilize is ANSI/HI 9.8 Rotodynamic Pumps for Pump Intake Design. It is a major time-saver in helping our teams determine the required dimensions.

In a real word example to illustrate the importance of this standard, we designed a pump station at our lock at Sault St. Marie, Michigan, where we were tight on space. Physical modeling is sometimes necessary but often takes significant time. While the software for modeling pump stations has come a long way, it's not advanced enough to be solely relied upon without physical modeling. We utilized ANSI/HI 9.8 and our own engineering manuals, which HI helped update, to save time while minimizing the footprint.

**Timothy Paulus, Mechanical Engineer,
Army Corp of Engineers and HI
Standards Partner**

Determining Acceptable Pump Piping and Vibration Requirements

A companion to ANSI/HI 9.8, ANSI/HI 9.6.6 Rotodynamic Pumps for Pump Piping has guided our designers on minimum suction pipe straight run requirements and considerations if unable to accommodate the minimum values in retrofits.

Additionally, ANSI/HI 9.6.4 Rotodynamic Pumps for Vibration Measurement and Allowable Values sets vibration acceptance criteria and measurement methods for rotodynamic pumps. We use this standard as a benchmark for existing pumps to determine relative change from initial baseline as well as to assess how much the pumping units have migrated from acceptable vibration characteristics due to wear, system changes, conditions of service changes, etc.

These standards and guidelines will continue to be important to pump system design and assessment in the future. As with most guidance, they must evolve with changes in the industry, adapting alongside new trends or challenges. I expect the Department of Energy regulations could lead to pump efficiency and pump system optimization requirements and guidance expanding within several HI standards, guidelines, and guidebooks to a greater degree if the regulation scope continues to grow with additional market segments, pump types, accessories, and more.

**Steve Fehniger, Principal Engineer, CDM
Smith and HI Standards Partner, Water/
Wastewater Market Segment Focus**



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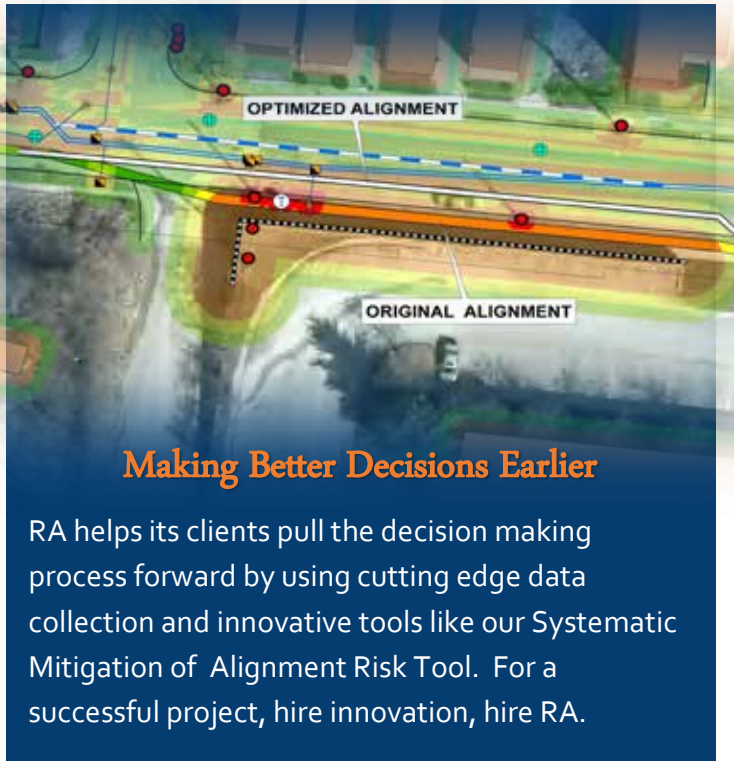
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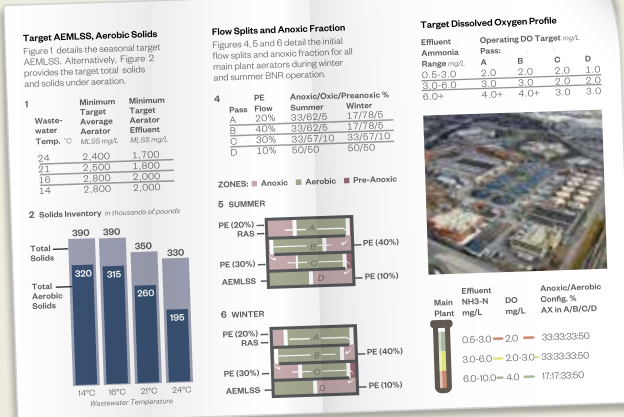
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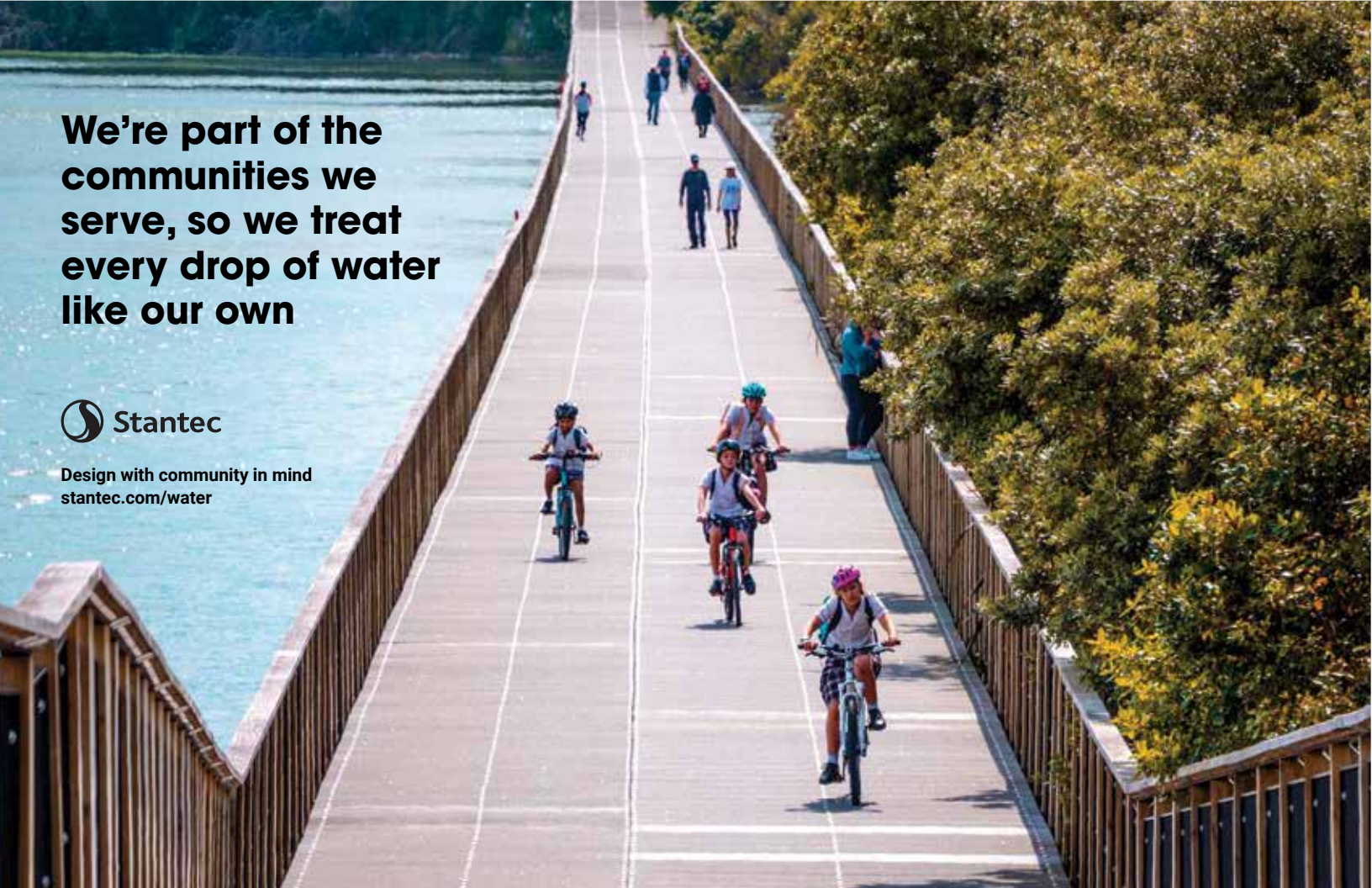
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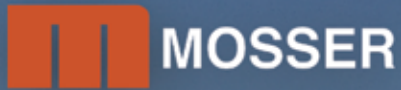
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WEF Utility Partnership Program

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/>



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

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City of Newark

City of Oberlin

City of Painesville

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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

At OWEA, we try to make sure you know exactly how important YOU are. You matter. You matter to us, the environment, and you matter to your community. You are the first line of defense in the fight for good public health. You are ESSENTIAL!

Recently, a speaker at a workshop did a great job of explaining exactly how important the work our wastewater professionals do is. He showed a great video that explained the difference that just one toilet can make in an area where proper sanitation isn't the standard. He presented another video that explained the connection between having appropriate treatment of human waste and education. He also discussed how valued and needed the skills of our wastewater operators are and how if you have never traveled outside of the United States, you truly can't appreciate exactly how fortunate we are in regard to sanitation.

OWEA often sings your praises on social media. We talk to our political leaders about how important what you do is. We work hard to help the public to understand how crucial you truly are. What I think we can do a better job of is helping you to realize it and start to value yourself.

If COVID taught us anything it's that nothing is certain and we truly don't know what the future holds. So how are you taking care of yourself? How are you being fulfilled at work? While the rest of the world came close to standstill during the pandemic, our wastewater professionals geared up. You worked longer and, in many cases, more extreme shifts. You learned about how COVID can be detected in wastewater and how that information is another tool in fighting the virus. Let's be honest, you worked your butts off!

So how are you rewarding yourself as the world



returns to a (new) normal? How are you getting re-energized about your profession? How are you nurturing yourself both professional and personally? Are you working to re-connect with those you lost touch with?

You need to understand how important you are. You need to get re-energized. You need to attend the upcoming One Water Conference. It's important and not something you should put off until it's a perfect time.

This year's One Water is slated for July 24-27 at the Huntington Center in Cleveland, Ohio. While we are grateful we were able to hold One Water in 2021 in Cincinnati, many of you couldn't come due to travel restrictions, budget, or personal health concerns. This year's One Water is a must do and your chance to take some time for yourself and your profession. It will allow you to reconnect with those you might not have seen in two years.

One Water will feature great technical programming that will allow you to get multiple water and wastewater contact hours. You can hear from your peers how to handle issues you are facing. You will see the latest in products and services in

Office Offerings

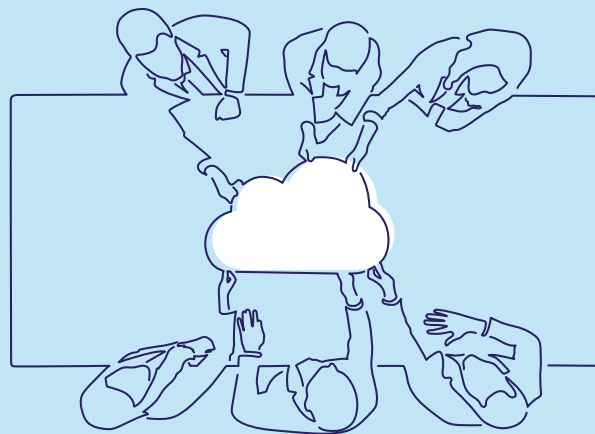
the Expo Hall and have a chance to cheer on your favorite water warrior during Operations Challenge. The best in our industry will be celebrated during our OWEA Awards Luncheon. There will be plenty of time to socialize during exciting evening events, which will feature a great combination of time to catch up with old friends and make new ones.

So now is the time to prioritize yourself. Now is the time to get excited about your profession. Go get registered. If you are a supervisor, show your employees they are valued by supporting their attendance. You need this and YOU ARE WORTH IT!

DAWN LARSEN, CAE,
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LET'S BUILD SOMETHING DIFFERENT

Fifty Years of Progress and Looking Forward

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

Memorable Quotations

"Innovation distinguishes between a leader and a follower"

Steve Jobs (1955-2011)

"Those who cannot remember the past are condemned to repeat it"

George Santayana (1863-1952)

The Life of Reason, 1905, from the series
Great Ideas of Western Man

There is a multitude of lessons we can learn from the past if we remember them. Work done by those who came before is a bridge to the future and can make our burdens lighter.

A Noble Beginning

October 18, 2022, marks the fiftieth anniversary of the signing of the Clean Water Act into Law by President Nixon. The signing of the Clean Water Act (CWA) was a watershed event in human history for the United States. I was in tenth grade and was aware of the significance of the event. I lived near Lake Erie and was bombarded in the 1970s about lake pollution from wastewater. In 1970, when I was in junior high came the message that Lake Erie was dead.

Of course, the CWA was not the first legislation pertaining to water pollution. But the CWA was the first that applied to the entire United States.

It replaced previous legislation such as the Water Pollution Act of 1948 that created the Ohio River Sanitation Commission (ORSANCO). As we know, ORSANCO still exists.

Since that time, water quality has improved steadily. What I liked about the CWA is that it set forth a grand plan with a milestone for rivers and lakes to be fishable and swimmable by 1977. While regulated states did not meet these deadlines, the dates were a useful tool to measure progress.

Now, one of our greatest challenges is harnessing enthusiasm from the 1970s and infusing it into a new generation of water environment professionals. The CWA created a new occupation: the professional operator. As a civil engineer by training, the branch of sanitary/environmental, the Ohio State University, created a new field of study during the early years of the CWA in the Department of Civil Engineering. Since that time, WEF and OWEA continued to try to elevate the profile of the professional wastewater operator.

How Innovation and Discovery Occurs

I find it interesting to see how innovation occurs. What I have learned, is that innovation and discovery come through small studies or accidental discoveries and not top-down directed initiatives. This was part of the vision that President Carter took in creating the US Department of Energy in 1977. The goal was to foster research and making the United States

energy independent and taking the first steps to address climate change. I wish that the early momentum set into motion by President Carter in the late 1970s were continued at the same pace over the last forty years. Energy technologies like solar, wind and electric automobiles would have been advanced.

Innovation in the Wastewater Field

I joined the Ohio EPA forty years ago after graduate school at the Ohio State University. While I was not part of the first generation of Ohio EPA engineers and scientists, I was in the second. I witnessed rapid advances in technology and treatment approaches in use today. Examples of the best technologies and treatment concepts from the 1980s include oxidation ditches, large deep well baffled final clarifiers, storm flow and step feed provisions, gravity and belt filter presses, and UV disinfection, and many more. The trend for innovation and redevelopment and deployment of technologies continues to this day.

Learning from the Covid Era

Unfortunately, the Covid era has not passed. I hope that we never forget this era of hardships and the need for better level of research and preparedness on the national level. Strong planning at the national and state level is essential. While prior warnings about viruses in recent years created a sense of false security that the era of big disease ala the 1918 flu was in the distant past, most agree that the initial response to Covid 19 by the United States government was poor.

The Ohio Coronavirus Wastewater Monitoring Network

Innovative efforts continue. Researchers with

the assistance of organizations including the Ohio Department of Health and Ohio EPA created the Ohio Coronavirus Wastewater Monitoring Network.

The Network is a new effort to help mitigate the spread of COVID-19. A network across Ohio is studying samples of wastewater to look for the presence of gene copies/fragments of the virus's ribonucleic acid (RNA).

Society has struggled with adequate testing for the virus due to supply limitations and reluctance on many in society to be evaluated for Covid 19. Turning to wastewater as part of an early warning system is an unbiased tool in monitoring. Two years ago, who would have thought that we would be using wastewater as part of the monitoring for Covid 19? I am always amazed at the ingenuity and enthusiasm of the American spirit. Despite the adversity and challenges, we face as a nation in recent years; this ability to invent and adapt in creative ways to advance humankind creates hope and promise of a better tomorrow.

The Northeast Section of OWEA held it an Innovation Workshop on April 14, 2022. Unfortunately, by the time the Buckeye Bulletin is mailed, this workshop will already be held. It promises to be a great workshop, and I plan to attend. This forward thinking by our organization inspired me to be a member since 1983. We must always press forward. By remaining still, even for a moment, we run the risk of becoming stagnant and potentially falling behind.

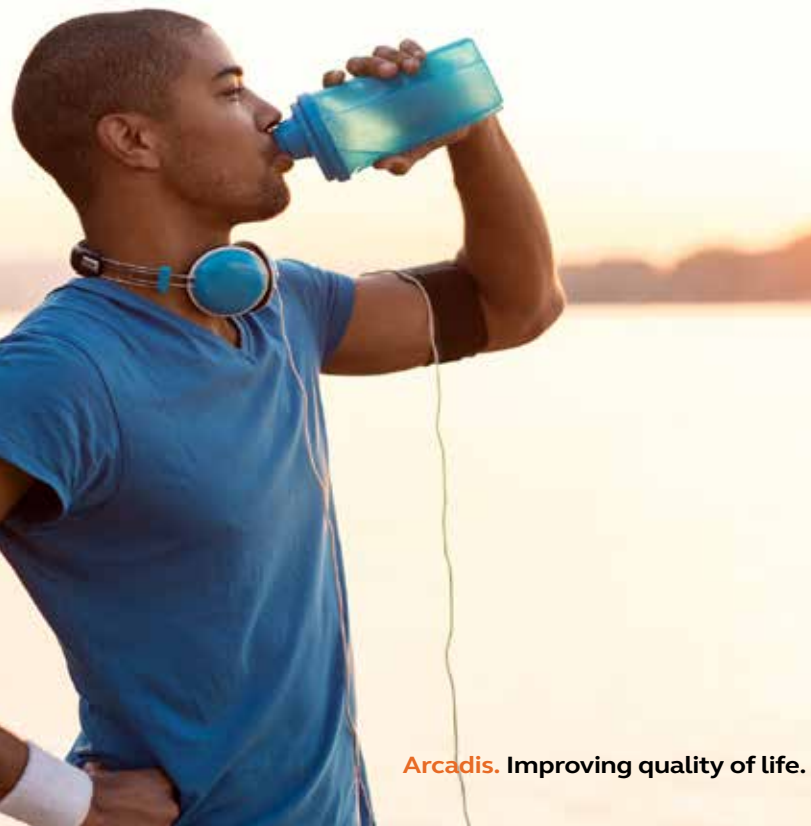




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Tiffany Maag, President

Hello again from the Southeast Section! We have had a very busy winter and spring in our section with several section meetings as well as a social event. Here's a run-down of our recent section events:

Recent Section Happenings

The first event in 2022 was our February Industrial Pretreatment Meeting which was held at State Industrial in Hebron, Ohio. This meeting included tours of State Industrial's full pretreatment process as well as several presentations on pretreatment technologies and processes. Thank you to everyone who attended the event and those who gave tours and presentations to make this a great success for our section.

We also held our annual May Awards Meeting in Delaware County. This meeting included plant tours of the Delaware County Regional Sewer District's NorthStar WWTP and the Village of Galena's WWTP in the morning followed by several technical presentations in the afternoon. We also honored our Past Presidents from the SE Section during the luncheon and held our annual awards presentation at the meeting. Congratulations to all of our section award winners, you are so deserving!

Water for People Social Event

This was the first year that our section held the annual Water for People Social Event, which was typically a State level event in the past. We were so excited about the opportunity to continue to hold this event in the section and hope to continue the tradition to hold it annually. The event was held on

May 5 at Strongwater Food and Sprints in Columbus so we decided it would be fun to do a Cinco de Mayo theme. The event featured a taco bar, 50/50 raffle, and table sponsorships to benefit Water for People. Thank you to everyone who came and enjoyed the festivities and donated to such a worthy cause!

Science Fair

Our section assisted in judging at six High School District Science Fairs this spring. These science fairs were held at Ohio University, Ohio University Lancaster, Zane State College, and virtually at Belmont College, Columbus State Community College, and Rio Grande College. Our section judges reviewed various science fair projects that focused on both water and wastewater themes. The winning project at each fair received a \$100 check from SEOWEA for their selected project. Congratulations to all of the winners and also thank you to Aaron Pennington for coordinating these efforts and judges.

In Closing

It is hard to believe that the year is winding down and this is my last article as President of the section before passing the gavel to Josh Holton from Southwest Licking CWSD. A big thank you to everyone on the Section Executive Committee for their efforts this year. We were able to offer many in person events and had great turnouts due to the hard work and dedication of the entire EC pitching in and making things happen even in the midst of the pandemic. We really were able to make the best of it and work within the safety guidelines to continue to have in person events in a responsible way and I'm very proud of what we were able to accomplish. It has been an honor to serve as Section President, and thank you all for your support throughout this year.

Tiffany Maag, tmaag@co.delaware.oh.us



Tony Hintze, President

Hello again from the Northwest Section. Spring is finally here and that means my year as the NW President is beginning to wind down. I want to take this opportunity to say thank you to our Sponsors, the Executive Committee and the Committee Chairs for all you do. As I step into the role of Past President, Andrew Gall will be taking over the reins.

Recent Events

By the time this will be published, our May 4th Section Meeting in Upper Sandusky has already taken place. I would like to thank the City of Upper Sandusky for hosting our meeting and The Bergren Associates, for sponsoring the hall and providing door prizes. In the morning everyone that attended had the opportunity to tour the Upper Sandusky WWTP and do a little networking while enjoying coffee and donuts. After Lunch we had presentations about the Design and Construction of the Upper Sandusky WWTP presented by Tim Brett, Xylem and Wastewater Treatment for the Food Industry, by Mike Maringer for a total of three contact hours.

On May 6th, Past President Todd Saums organized our Past Presidents Luncheon at the Stone Ridge Golf Club in Bowling Green. After catching up with friends and enjoying a full lunch buffet, everyone was invited to a round of golf.

Upcoming Events

There are a lot of great opportunities coming up that you will not want to miss.

We are working on the details for our Annual Section Meeting/Golf outing. This year's Golf Outing will be held in June and I'm really excited about this meeting. Not because of the golfing but because of the topic I'm hoping to focus on during the morning presentations and the afternoon tour/hands on training for the non-golfers. More details to come as things develop.

Then in July, keep your eyes open for an email from our Residuals Management Committee Chair, Aaron Harter. He has been patiently waiting for restrictions due to COVID to subside and now that it has, he is organizing the NW Section's Biosolids Field Day.

This year's Friends and Family Day is also in the planning stages and will be returning to the Lake Erie Islands, so be ready for some fun in the sun.

OWEA has a lot of good things in the works and I'm proud to say that I am a part of this amazing organization. If you ever thought about getting involved, take that step and get involved. Your only regret will be that you didn't get involved sooner.

I hope to see you at all of our future events. Since this is my last Section Report, I'll leave you with one last piece of advice: Remember working in the lab is just like cooking in your kitchen, just don't lick the spoon!

Tony Hintze, thintze@fremontohio.org





SWOWEA

Dave Reinker, President

From the Southwest Section, I hope this finds everyone in good spirits. We are getting busy here in the Southwest as we just had our first Section meeting and tour March 24, and the next section meeting is scheduled for May 19. Besides the regular happenings taking place inside the section, I would like to inform everyone about two SWOWEA members that are volunteering to go to Poland and help with the Ukraine war efforts.

First an update about our section. On March 24 our collection committee put together a section meeting hosted by MSD Greater Cincinnati of their Lick Run CSO project. It was a wonderful 2 hour walking tour with approximately 60 people doing the tour, then an attendance of near 80 for the lunch, business meeting and technical sessions where 2.0 contact hours were available. Thank you to Adam Ather and his committee for the setup of the event, and Dan Martin for the day of coordination. Greene County Sanitary will be hosting the May 19 section meeting at their Sugarcreek Facility. Please check <https://southwestowe.org/> for updates. I hope this reaches our readers before that date. If not, an update will be presented in the next Buckeye Bulletin. Please mark you calendar for June 9, 2022 as our Plant Operations committee hosts their always popular "Nearly Free" Seminar at the Greene County fairgrounds. It is in the early planning stages with 5-6 contact hours being planned.

Now on to our members volunteering to go to Ukraine. At the March section meeting the news was released that former WD Sheets Award winner

(2010) and retired MSD employee Barb Browne, and current Plant Supervisor Rachel Oscherwitz of MSD Mill Creek, would be heading to Poland around April 29 to help with the war relief efforts for Ukrainian refugees. They will be traveling with a group called Mercy Works out of Tyler, Texas. Below is a text message that was shared from Barb.

Hello friends and family.

Now that we have a contact and made some plans and Rachel informed her dad, we can let the news out. Rachel and I have hooked up with a group out of Tyler, Texas called Mercy Works. They're setting up, organizing, and mobilizing supplies and people for humanitarian aid for the Ukrainians affected by this senseless war. Rachel and I both felt the need to help and both had the same idea, let's go to Poland and be the hands on help they desperately need. So, we are leaving April 29 and flying to Amsterdam, then traveling to Dresden Germany, with our final destination being Warsaw, Poland. (Retuning May 12th). We will hook up with the other American volunteers and my new amazing friend Renata Bujanowska, a Poland native that has been helping at the border since day one. We have offered to do border runs, driving buses and vans to the border, taking supplies to Ukraine and getting their people the heck out. We've also volunteered to do childcare, help with housing, cooking and serving. So, here's where you come in. 100% of our travels are covered, but there are other ways we could use some help. We're asking for any donations that will go for supplies and gas for the border runs. If you

want to send supplies directly there, I have a contact and address for you. I have a list of most needed supplies I can send you. If you can donate money but If you think Rachel is kinda shady and I'm a little sus, (i wouldn't blame you) I can give you a contact to send monetary donations. There's also a great way to help with housing; the Airbnb app is taking housing reservations for displaced people. There are rooms for as cheap as 25 dollars a night, and one night can make all the difference. Most importantly, we ask everyone to pray, send good vibes, whatever, to the people of Ukraine and the wonderful volunteers helping. Closer to our departure, I wouldn't mind some of those prayers and good wishes sent our way. Also, We can send you an itinerary of our travels if you'd like to follow along.

Thank you so much, lots of love, Rachel and Barb.

Dan Martin made up a donation box and donations were accepted at the meeting for Barb and Rachel.



Please pray for their safe travels, and hopefully they are nearing the end of their volunteering or even safely home as you read this.

Finally, we have two volunteers who have stepped up to be Co-Chairs for our YP committee. I would like to introduce Khizer Zaman with Stantec (*Khizer.Zaman@stantec.com*) and Brianna Adams also with Stantec (*Brianna.Adams@stantec.com*). If you would like to be involved (under age 35) please email them and let them know you are interested. Hopefully as they get their feet wet, some YP tours and happy hour events will be set up. They are taking over for Pooja Chari who moved away last fall. Thank you, Pooja, for still running the YP from your new home in Massachusetts. You did a great job promoting the YP's while you were the Chair. Best wishes from the SWOWEA.

Finally, I would like to introduce the SWOWEA 2022-2023 slate for the executive committee:

President: Justin Bahar, MSD

Vice President: Kevin Stilwell, Clear Consulting Inc.

Treasurer: Ed Smith, City of Mason

Secretary: Bryan McNutt, City of Middletown

1st year Director: Chris Zidinak, MSD

2nd year Director Joseph Kamalesh, Stantec

And nominee, Travis Cooper as 3rd year Director form the City of Fairborn.

And of course I will ride off into the sunset as Past president!

David Reinker, SWOWEA President



NESOWEA

Bill Zawiski, President

Time has sure passed me by. It seems like just a blink of the eye and my journey through the Northeast Section EC is coming to an end. The coveted position of Past-President is within my grasp. Our section has been busy, hosting both the January Operations Seminar and the February Industrial Seminar. We kept the attendance reduced to keep a little more room between participants. By the time this article is printed we will have completed our April Innovation Seminar and our May Business Meeting and Plant Tour, graciously hosted by the City of Youngstown.

I sincerely hope that everyone has weathered the pandemic and, as we head into our new normal, stays safe and healthy. Thank you to all those who did not have the option of working remotely operating and maintaining our infrastructure. Truly unsung heroes and heroines. To our Executive Committee I give a big "Thank You". Without the hard work of these dedicated volunteers, we would have a difficult time providing the quality of programs we offer. Jennie Celik, our current vice-president, has done a great job organizing our events for this past year. I would also like to send my appreciation to the rest of our current executive committee: Steve Baytos, Krishna Chelupati, Kristi Babcock, Doug Dietzel, and our Treasurer Todd Taylor, thanks for putting up with me. It has been an honor to serve the group and also a whole bunch of fun too. As I ride into the sunset may life always smile kindly in your direction.

Thank You and Peace Out!

Bill Zawiski, NESOWEA



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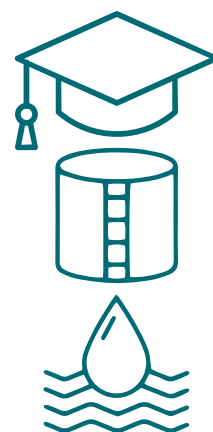


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Survey says!

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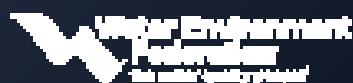
This is your opportunity to ensure the efforts of the committee are focused in areas that will add value to your system and your community. We want to develop tools you will use focused on the issues that are most valuable to you!



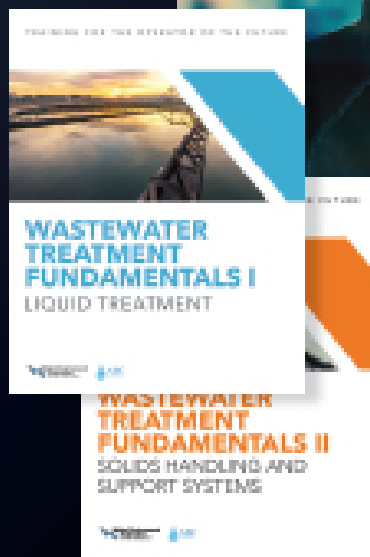
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Watershed Workshop
October 27, 2022

Biosolids Workshop
December 13, 2022

Certification Committee

by Kathy Beckett, Certification Chair

The Association of Boards of Certification (ABC) has been the certification body for water and wastewater professionals for 50 years. Early this year ABC rebranded to **Water Professionals International (WPI)** to better define their primary role in water quality and public health. They will continue their role in creating certification tests for water professionals. Their mission is to improve the competence of water and wastewater professionals and the efficacy of their systems, as well as, advancing the profession of water and wastewater operations among the communities they serve. The examinations offered by OWEA are written by ABC – now WPI. Rest assured you are taking an examination that meets the highest industry standard for certification.

Computer based testing (CBT) for Wastewater Laboratory Analyst and Ohio Industrial Waste Inspector (Pretreatment) certification examinations are available by applying online at OWEA <https://www.ohiowea.org/certification.php>. Once approved you will receive an email from AMP Customer Service to schedule your exam at a PSI testing center located near you.

The cost to apply for each level of OWEA Laboratory Analyst exam and Industrial Waste Inspector exam is \$30 for OWEA members and \$45 for non-members. The computer based test cost for each level of Laboratory analyst examination (3 hour exam) is \$104 and the cost for the Ohio Industrial Waste Inspector exam (4 hour exam) is \$124.

Several candidates have taken and passed

multiple levels of examination they were eligible to take. Preliminary data shows a 75% pass rate for all examinations taken since OWEA launched computer based testing. This is a big improvement over the paper based testing.

I would like to congratulate the following individuals for passing the OWEA Wastewater Laboratory Analyst and Ohio Industrial Waste Inspector examinations 1st quarter 2022.

February 2022

Brian Porter

Wastewater Laboratory Analyst Class II

Matthew Turosky

Wastewater Laboratory Analyst Class II

March 2022

Meghan Calder

Wastewater Laboratory Analyst Class I

Emereis McKelvey

Wastewater Laboratory Analyst Class I

Warren Ollis

Wastewater Laboratory Analyst Class II

Matthew Turosky

Ohio Industrial Waste Inspector

Please feel free to reach out to me if you have any questions kmrish@columbus.gov

Laboratory Analysis Update

by Melodi Clark and Tony Hintze,
Laboratory Analyst Committee Co-Chairs

Happy Spring from your state lab co-chairs Melodi and Tony. We are looking at holding in person trainings this year. We are still trying to complete the training program for our lab analyst trainings we have offered in the past.

We are also looking for lab profiles that will be featured in our Buckeye Bulletin so if you would like to see your lab featured please reach out to Tony or myself. We are always looking for speakers for different events throughout the year so again please reach out if you have a topic or paper you would like to present. We hope to see everyone really soon.

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Terri Brenner

tbrenner@ci.perrysburg.oh.us

Committee Mission Statement

The OWEA Laboratory Analysis Committee (LAC) strives to provide relevant and timely information on laboratory regulation and policy for the collection and analysis of wastewater and surface water samples. We strive to provide training in a relaxed, stress-free manner, to ensure the ability for participants to gain knowledge and skills to benefit them in their professional environment.

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Watershed Committee

by Anil Tangirala and Bryon Ringley, Watershed Committee Co-Chairs

Happy Spring; it's a great time to get out and start exploring your watershed as the native vegetation starts to bloom and the ecosystem begins to wake up from its long winter nap. Hopefully the early spring snows here in Ohio will be done by the time this goes to print! In fact, it snowed on us all weekend during our late March backpacking trip in Zaleski State Forest, and I'm watching the snow fly as I write this on April 1st.

The Watershed Committee met for the first time this year on March 24th to start planning for 2022 OWEA Watershed Workshop, which will once again be in-person. Be sure to block off your calendars for October 27th to attend this year's workshop. The committee came up with a great list of potential topics and speakers, and we will be reaching out to confirm the agenda over the next few months. We are always open for additional topics or speakers. If you have suggestions, please contact us.

The committee is also open to adding members that are interested in watershed issues and helping with planning the workshop and other activities. If you are interested in joining the committee, please email Anil and Bryon so we can get you on our contact list for future meetings and emails.

"In rivers, the water that you touch is the last of what has passed and the first of that which comes; so with present time."

Leonardo da Vinci

Anil Tangirala

atangirala@msconsultants.com

Bryon Ringley

bringley@msconsultants.com

Utility Enhancement Committee

by Jeffrey Duke and Doug Baldessari, Utility Enhancement Co-Chairs

Greetings from the Utility Enhancement Committee! We continue to have monthly video conference meetings with focus sessions related to utility management/utility enhancement current hot topics with many lately focusing on workforce development, hiring, and staffing.

We also are pleased to be working with OAWWA on a joint panel roundtable on utility management topics for the One Water Conference this summer

which should be a great session. We hope everyone has a great conference and we look forward to seeing everyone there.

If you are interested in becoming involved with this committee – please do not hesitate to contact me (*Doug.Baldessary@bakertilly.com*) or Jeffrey Duke (*dukej@neorsd.org*). All assistance is appreciated!

Safety Committee

by Nathan Coey, Safety Committee Co-Chair

Public health and safety is at the core of every Water Warrior. We work to support and encourage positive life sustaining services to the citizens we serve. Dear to the service provided is the safety and health of our greatest resource, fellow Water Warriors. Be kind to yourself, be safe while working through a pandemic of global impact. If you are looking for material to help build and improve the safety program in your workplace. WEF has a great resource.

“WEF has made access free to “Biological Hazards at Wastewater Treatment Facilities,” via Access Water. This book chapter is written by water professionals for water professionals to help protect them against workplace exposure to pathogens, including viruses.

The free online chapter is available on Access Water. This chapter is part of the book, Safety, Health, and Security in Wastewater Systems, 6th Edition (Manual of Practice No. 1). WEF also has discounted the price of the 482-page, hardcover book by 50%.

These resources were prepared by the Safety, Health, and Security in Wastewater Systems Task

Force of the Water Environment Federation.

The book will serve as an injury-reduction tool to all those working in the wastewater sector. There are guidelines for creating written programs and procedures as well as guidelines that describe how to perform a confined space entry, lockout/tagout, and chemical deliveries. From the laboratory to sewer system applications, this manual has recommendations that could help you reduce injuries and mishaps to ensure the ultimate safety of employees.”

As a WEF member you have access to this resource and I highly recommend utilizing this material as you embark on a new year. For your convince the link to this resource is located at <https://www.wef.org/news-hub/wef-news/wef-provides-free-safety-resource-on-biological-hazards/>

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