Aerial view of Columbus Wastewater Treatment Facility, Columbus, WI

Photo by Mr. Davis Clark

55th Annual W.W.O.A. Conference
October 5-8, 2021
LaCrosse Convention Center, LaCrosse
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The Clarifier is the publication of the Wisconsin Wastewater Operators’ Association and is intended to inform and educate the membership on issues related to the treatment and control of wastewater. The Clarifier is produced five (5) times each year: February, April, June, September, and December. All members are encouraged to contribute to the mission of the Clarifier.

The Wisconsin Wastewater Operators’ Association is a non-profit organization dedicated to educating, informing, and advancing the wastewater profession. WWOA has approximately 2,000 members divided throughout six regions: Southeast, Southern, Lake Michigan, North Central, Northwest, and West Central.
Presidents message: Looking ahead to an in person 2021!

When I was first elected to the Board back in 2013, little did I know what the winter of 2013-14 had in store. Getting through six and a half feet of frost to repair watermain breaks, frozen water and sewer services, even delayed street construction in the spring while waiting for the frost to come out.

Now we have 2020…
As I take over as president it will be interesting to see what is in store for WWOA and me during the coming year. For those of you that don’t know me, my wife Terese who many of you have seen working registration at the conference and other WWOA events, and I have been married for 39 years. We have four grown children, three grandchildren and a fourth on the way. I have always considered my family to be one of the things that I am most proud of. I have been a treatment plant operator and member of WWOA for over 30 years. Prior to that I grew up on a dairy farm and owned one for several years before getting a Water and Wastewater Treatment degree from Moraine Park. There are a lot of similarities between farming and being an operator. The keeping of records, working in all kinds of weather, never money to buy what you need, the comparisons are many.

I want to give a big “hats off” to Jeff Smudde for all of his work leading WWOA and keeping us on track to achieve everything that we did as an organization during this difficult year. I have come to rely on Jeff a great deal for his knowledge over the last seven years. I know that I will continue to do so during my last two years on the Board. The rest of the Board and other committee chairs are to be commended also for their ability to handle changes in normal procedures and accomplish the goals that they set for their committees. Nancy Short who was the interim executive secretary for WWOA put in many extra hours making sure that the virtual conference came off as smooth as possible. After the conference the Board voted to remove the word interim from her title. Congratulations Nancy. I look forward to working with Nancy and her assistant Katie Young Eagle during the coming year.

There was a total of 354 people registered for the conference. That number is about half of the normal, but all things considered a pretty good turnout. Rick Mealy did a fantastic job as technical chair for the conference. He worked with presenters and managed to rearrange the technical program into a workable virtual format in the days scheduled for the conference, to the advantage of our attendees. The sessions that would have been presented on Tuesday, as pre-conference workshops, will be available as virtual classes for credit later this year. Government Affairs and Spring Biosolids Symposium are also going to be virtual in 2021. Keep looking to the website for information pertaining to these training opportunities.

Earlier I mentioned that I am proud of my family. Another family that I am proud to be part of is WWOA and the people involved in this industry. Moving into 2021 I hope, as I’m sure we all do that we can begin to have in person meetings. I am looking forward to seeing familiar faces and getting to know many more members of our wastewater family.

Take care everyone, and I hope you have a happy holiday season. Don Lintner
City of Columbus Wastewater Treatment Facility
By: John Nehmer, City of Columbus & Dave Arnott P.E., Ruekert-Mielke

The City of Columbus, home to beautiful period architecture, Farmers and Merchant Bank’s downtown building being the “jewel” - visited by many architecture enthusiasts - is located 25 miles northeast of Madison. Columbus, known as the Redbud City from the large number of redbud and other blossoming trees and the historic feel of community, make it a great place to visit.

Our City leadership is Michael Thom, Mayor, and Kyle Ellefson, City Administrator. Antique shopping in one of the State’s largest malls, kayaking the Crawfish River, swimming at Columbus Area Aquatic Center and relaxing at the Firemans Park are a few more reasons to visit.

The current treatment plant was built in 1983. It replaced an aging facility originally built in the 1930s and upgraded in 1954. More stringent limits and the volume needed to be treated required the construction building of the current facility.

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In 2009, the City began an operation and needs review which quickly turned into a Facility Plan. At the time, the Village of Fall River was at capacity with their system and needed a solution to meet future permit limits. Planning began to determine the most feasible option for the City and Village. Officials from both communities agreed upon the recommendation that Fall River abandon their lagoons and pump their wastewater to Columbus for treatment.

In 2010, Columbus and Fall River began to assemble an agreement and begin work on infrastructure to accommodate this change – a pump station in Fall River with a force main to Columbus, a larger interceptor to convey the additional volume and more pumping capacity at the Columbus facility. Columbus began receiving wastewater from Fall River in March of 2012. The Village is invoiced for their volume and loading into the facility. The Elba Sanitary District N° 1 is also a customer of the City’s sewer utility. Thirty-five miles of pipe and 10 lift stations move wastewater to the treatment plant.

The extended aeration activated sludge plant uses a variety of typical treatment processes before effluent is discharged into the Crawfish River.

Primary treatment utilizes an Enviro-Care perforated belt screen and washer/compactor - installed in the summer of 2020. Wastewater is pumped to the grit removal system by three Flygt dry-pit submersible pumps - each capable of pumping 2,500 gpm.

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Average flow into the plant is 1.14 mgd with peak pumping capabilities of 7.5 million gallons. During high flow events, wastewater in excess of 3,500 gallons per minute is the diverted from the activated sludge process by the use of a longitudinal weir. This diverted flow is disinfected and blended with fully treated wastewater before discharge into the receiving water.

Removal efficiencies for BOD, TSS and ammonia are over 98 percent with phosphorus being chemically removed to meet permit requirements.

Wasted sludge is aerobically digested and thickened by settling and decanting before being dewatered with an Ashbrook 2-meter Klapress to 15 percent. Dewatered biosolids are stored until land application on local farms. The City has undergone several rehabilitation projects in the last ten years. These are listed below:

- Wet Weather Blending Conversion – 2011
- RAS Pump Replacement - 2013
- Aeration System Upgrade with New Blowers and Diffusers – 2014
- Final Clarifier Rehabilitation – 2015 and 2016
Solids Building HVAC Upgrade – 2019
Sludge Tank Blower Replacement - 2019
Influent Screen Replacement and Building Addition - 2020

Treatment plant staff operate the plant by former DNR wastewater engineer Jack Saltes’ age-old mantra of Waste Sludge, Waste Sludge, Waste Sludge – sage advice. Basin Engineer Doris Thiele has been a valuable resource as well - as she was when we shared a study hall table in high school.

A new permit issued in August 2020 has a compliance schedule to meet new phosphorus (P) discharge limits.

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MAJOR ANNOUNCEMENT!

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Leading to the anticipated limits of 0.075 mg/L, studies, including plant optimization and technology based processes to find the best alternatives were done using Ruekert&Mielke, Inc. (R/M) as the consultant. These findings revealed that filtration alternatives were either unrealistic or cost prohibitive. The City with R/M’s expertise, looked to Water Quality Trading (WQT) as an option. Columbus invited landowners and growers to an informational meeting in the summer of 2018 asking for interested “partners” in WQT. Interest from several owners and growers allowed to City to pursue WQT and plant optimization as the path to compliance.

The WQT plan approved by the WI DNR in early 2020 is the method the City will use for P limit compliance. With assistance from Columbia County’s Land Conservation

Influent screen
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Department, installation of buffer strips, reestablishment of waterways, cover crops, conservation cover, and enhanced farming practices will begin generating credits in July 2021. These practices were installed in the spring and fall of 2020. The City also had Total Maximum Daily Load (TMDL) credits available to sell. These credits were from the difference between the TMDL-based limits and the Water Quality Based Effluent Limit (0.075 mg/L) levels in the Columbus permit. The City was approached by a township and company needing extra credits to help with their compliance. Both entities had direct discharge to the Rock River.

In each of these cases, WQT and TMDL credit selling, contracts were created and signed by City officials and “partners”.

To help with understanding the impact phosphorus has on the State’s waters, a pamphlet is available at City buildings with information that can lead to public assistance in creating clean waters. A collaborative effort with a local civic group in creating a pollinator garden - Columbus Butterfly Volunteer Park - is in its early stages. This park would be on City-owned land directly north of the treatment plant. Hopes are it will ultimately serve as an outdoor classroom.
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with an educational path. The park may include small replicas of conservation practices that could be installed at full scale on area farms. The replicas would allow the City residents to see up close how the practices work to reduce runoff.

The City continues to grow and the utility has made improvements to the collection system, lift stations, and treatment plant to continue to be a valuable asset to the community and surrounding area.

If you haven’t paid your membership dues yet, please do so ASAP!!

You wouldn’t want to miss out on all the exciting news that is in each issue of the Clarifier, now would you?

If you have questions on your membership number, renewal date, or want to pay your renewal, contact Executive Secretary Nancy Short n.short@wwoa.org or call her at 414-908-4950 x136.

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Looking back at the 2020 virtual conference

2020 certainly proved to be a challenging year in many ways. The WWOA Board of Directors typically meets 4 times annually to build a budget and plan for the conference. This year, with a need to continually monitor the pandemic, the Board met—virtually—at least biweekly and eventually weekly as the decision was made to hold a virtual conference while many other organizations simply canceled theirs.

Thanks to a dedicated group of presenters and moderators, the 54th annual conference included 40 well-received technical presentations.

Gilbert Brown and his business partner, Mark Mayfield provided a unique “fireside chat” approach to open the conference. We learned a lot about Gilbert that we did not know, and his message was timely.

Following Gilbert, we introduced Paul Kent to talk about the Hot Topic in our industry: PFAS. Paul provided a great review of existing and potential legislation and it served as a lead-in to a set of 4 presentations on PFAS.

With just under 400 registrations, we believe this was a very successful event given the difficulties associated with putting on the first ever (and hopefully last!) ritual conference.

In addition to registrations, the Board is grateful to all of our vendor members and partners who transitioned from exhibiting to sponsoring the conference to help defray costs of software licensing.

Thanks also are due to our interim Executive Secretary, Nancy Short, Katie YoungEagle and AEG for all their hard work in making the conference happen.
Thank you 2020 virtual exhibitors for your support

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2020 virtual conference award winners

George F. Bernauer Award
Aaron Dose Madison Metro Sewerage District
Over the past 9 years Aaron has demonstrated excellence in the wastewater industry through his dedication, attention to detail, and ability to think ahead. Aaron joined Madison MSD as an operator in September 2011 and quickly proved his capabilities, being promoted to Operations Supervisor in 2013. Since then he has proven himself to be an invaluable asset to the Madison MSD team.

In his current role as Operations Supervisor, Aaron oversees daily operations at the Nine Springs Wastewater Treatment Plant. The facility has an average daily flow of 41 MGD that serves a population of roughly 375,000 people, and consists of a number of complex processes including activated sludge with Bio-P, multi-stage anaerobic digestion, both Class B and Class A biosolids production, multiple biogas fuelled engines and boilers, UV disinfection, and an Ostara struvite recovery process, among others. Aaron also oversees the operations crew which consists of 11 operators and a lead operator.

Aaron has proven himself in a number of ways, but one particular example that stands out is his involvement with the addition of the Ostara struvite recovery process at Nine Springs. At the time the Ostara process was added to Nine Springs it was the first installation of its kind in the Midwest, let alone in Wisconsin, meaning no one had experience operating this complex technology. Aaron was tasked with leading his team to understand, operate, and troubleshoot this process over the next few years. During this time he helped coordinate and execute a number of optimization trials aimed at improving lower than expected initial performance from the system. Because of his efforts, Madison now boasts one of the best operating Ostara installations in the country.

Aaron has also shown strong dedication and commitment to the organization he serves, with one particular incident exemplifying these traits. Late on a Wednesday afternoon in May 2018, there was a major failure of a withdrawal pipe and valve connected to a digester. The failure resulted

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in uncontrolled draining of a 1 million gallon digester into the basement of the main sludge pumping and heat transfer building where most of the sludge transfer pumps are located. Immediate action was needed to prevent the basement from flooding, which would have resulted in multiple systems failures to various plant processes. To complicate things further, this event happened when most support staff were leaving for the day and several operations engineers were out of the office.

On top of all this, sludge flooding the building was slowly releasing methane (digester sludge), which posed multiple threats to staff as they worked to contain and stop the spill. Aaron was able to quickly muster staff, help ensure workers were kept safe, and ultimately identified the steps needed to prevent the building from flooding which involved reconfiguring piping to use a sludge transfer pump as a "drainage pump". To ensure everything was taken care of that day Aaron ended up working almost a second full shift without being asked to do so.

Aaron's attention to detail and ability to think ahead has also paid significant dividends to Madison MSD. A prime example of this is an initiative he started several years ago to improve thickening performance of the digested sludge gravity belt thickeners used to produce Class B “liquid” biosolids. Madison operates the largest Class B liquid biosolids program in Wisconsin, which typically generates around 35 million gallons of biosolids per year that need to be applied to farm land in spring and fall. Around 7,000 round trips using 5,000 gallon tanker trucks are needed to distribute the material annually. Improvements in thickening of the material has multiple benefits including more cost-effective use of polymer, increase in emergency sludge storage volume, and reducing hauling costs and truck traffic.

Aaron's forward thinking efforts in this area were made crystal clear in fall of 2018, when prolonged, record rainfall prevented timely hauling of biosolids and resulted in needing more winter storage than normal.

Thanks to Aaron's proactive efforts, the plant was able to survive until the spring biosolids hauling campaign without needing to implement emergency measures for biosolids storage. These examples, among many others, along with regularly ensuring Nine Springs operates at a high standard of performance, demonstrate that Aaron is deserving of the George F Bernauer award.

Koby Crabtree Award
Ryan Hennessy Midwest Contract Operations
Ryan is a past WWOA Board member that would have continued on in that role had his employer not deemed his availability to them more valuable at the time. 2015 recipient of the Illinois Section of AWWA’s “E.D.U.C.A.T.E.” (Educating the Drinking Water Utilities Commendation Award for Training Excellence) award. Grade IV Operator.

Why Do You Feel Nominee is Deserving of Award Being Nominated For?
Ryan selflessly gives his time to provide invaluable assistance in the use of microbiology to help run plants more efficiently. This is virtually a parallel to education provided by Dr. Crabtree, himself, and in his very field of expertise. Ryan has also done a great deal for the WWOA organization, always willing to lend a hand and provide educational opportunities to our members. In short, Ryan is quickly establishing himself as a modern-day Dr. Crabtree.

Service Award
Kevin Freber City of Oconomowoc Utilities
Kevin has stayed involved with the WWOA since his time on the WWOA Board of Directors (BOD). Kevin joined the WWOA BOD as a Director in 2008. By 2011 he became the Vice President and ascended to President in 2013. Kevin has continued his involvement since his departure from the BOD in 2016 with his involvement as Chair of the Permanent Arrangements committee and his assistance with the Exhibits, Manufacturers and Consultants committee.

Why Do You Feel Nominee is Deserving of Award Being Nominated For?
Since Kevin's first involvement with the WWOA BOD he has been a tireless promoter of the WWOA. Always willing to be involved and willing to help wherever needed in the organization. Despite having his tenure on the WWOA BOD cut short by early departures of senior BOD members, Kevin stepped into the role and commitments of the organization with little complaint. Kevin continues to provide excellent leadership characteristics for the organization by finding and facilitating conference venues that are suitable for the entire WWOA membership.

Newcomer of the Year Award
Matt Bottlemy City of Owen
Last summer cancer took over our operator Todd Averill and Todd could not perform his duties anymore because of his treatments. To make things worse, our Director of Public Works left the city as well. So, make a long story short there was no one here to run the plant that had any experience...
in wastewater. Matt, who has no wastewater experience and has been working here on the streets department, stepped up and went out to try to figure things out at the wastewater plant. Matt would also try to come back in and help on the streets as well.

The city was down 2 employees out of 4. Matt could have just stayed doing what he knew as far as work, but he did not. He went out and did his best with no help and no one around to teach him. Matt could have walked away so many times because he said he felt so alone and did not know who to talk to when he took over the treatment plant. But that was not like Matt to give up. Matt now, almost one year later, is a great asset here in Owen. After taking over the director of public works job and training Matt, I wouldn't want anybody else in that position.

Why Do You Feel Nominee is Deserving of Award Being Nominated For?
Matt is a guy that doesn’t look for someone to pat him on the back. He also works very hard to learn what needs to be done. When I took over the Director of Public works job, I had to teach Matt about wastewater and Matt was like a sponge learning everything he could. Now a year later Matt makes my job so much easier for me.

He always is looking to improve the quality of water we dump into the river. He is also looking at improving the maintenance of the system and plant. The Maintenance was slacking due to Todd’s cancer and you can’t blame him because he was just trying to survive the cancer. Matt is working hard to bring back the maintenance part as well. Matt is a guy that takes his work to heart. Thanks Again for looking at Matt. He wouldn’t even think of getting recognized for his hard work.

Lake Michigan Region Operator of the Year
Jerry Linsmeier
Jerry embodies the ideal operator, driving continued compliance with WPDES permits, while also undertaking routine maintenance of his plant. In addition to the daily operations, Jerry planned and led two projects in 2019 and 2020 that had important environmental impacts. He analyzed effluent phosphorus concentration which, while within compliance range, could be further reduced to create improved water quality downstream. Mr. Linsmeier also

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made changes to buildings and processes to reduce energy consumption, for more sustainable and “green” operation.

North Central Region Operator of the Year
Vic Krzykowski
I have known Vic for about 8 years. He called me one day, out of the blue, saying he heard I knew something about this biological phosphorus removal. He told me he was educating himself about bio-P and had a few questions.

We have been comparing notes about bio-P and other operational issues since. I have since found out that Vic retired from his first career, and came out of retirement to become the part-time operator for Blenker –Sherry Sanitary District. He taught himself wastewater operations and was working on a strategy for a 15,000 GPD plant to attain low level phosphorus limits through bio-P treatment.

I visited his plant and found he had turned a very basic oxidation ditch, with no instrumentation, into an advance bio-P removal system in a most unconventional way. He was using a milk bulk tank as his fermenter at the head of the plant. He was using a stock watering tank, modified with removable partitions as his anoxic tank. He picked up some VFDs and repurposed them to control the speed the oxidation ditch.

His control system was fantastic. He built his own SCADA system. He bought used or wholesale dissolved oxygen and ORP sensors, then wire them into signal converters to talk to his computer.

Imagine this, he uses a garden hose as his RAS line. The RAS rate is only a few gallons per minute, and he can move it anywhere in the anoxic tanks.

The results he is achieving are impressive. Well below 0.5 ppm total phosphorus in the effluent. The influent to the facility is strictly low BOD domestic waste. The flow routinely drops to zero overnight. It is not well suited for bio-P, but Vic has an amazing ability to get great results using his ingenuity any knowledge. He turned his treatment plant into a mini- research facility that many researchers would envy.

His dedication and commitment to his community and facility is second to none. His work at the facility continues to amaze me. He is the epitome of what the operator of the year award stands for.

Northwest Region Operator of the Year
Josh Pearson
Josh essentially single-handedly operates the Greater Bayfield Wastewater Treatment Plant (GBWWTP), which is an advanced secondary WWTP. He operates the plant, runs the lab, does grounds maintenance, record keeping, and equipment maintenance. The GBWWTP includes influent fine screening, biological nutrient removal activated sludge, final clarification, effluent filtration, UV disinfection, aerobic sludge digestion, and sludge reed beds for dewatering/stabilization.

Josh was a critical participant in a recent project commissioned by the Red Cliff Band of Lake Superior Chippewa to replace the non-native reed plants with a native variety in the sludge reed beds in Red Cliff, Bayfield, and Washburn. The native reeds and the sludge dewatering/stabilization process are doing very well at the GBWWTP thanks to Josh’s attention to the system and control of environmental conditions. Josh implemented a project to install a solar photovoltaic system at the WWTP in 2019 which began generating electricity to offset WWTP electrical needs this year. He is an active member of WWOA and submitted an excellent article about the WWTP for the April 2018 Clarifier.

Why Do You Feel Nominee is Deserving of Award Being Nominated For?
Josh has been an operator for City of Bayfield since May 2015. He has quickly obtained all required certifications and learned the processes and laboratory procedures to successfully operate the plant and achieve excellent effluent quality in keeping with the GBWWTP motto, Clean Water for a Superior Lake. He has gone above and beyond the call of duty by championing the solar photovoltaic project which will reduce costs for ratepayers. It is clear from his 2018 Clarifier article and from professional interactions with Josh that he is passionate about clean water and efficient treatment plant operations. (See additional reasoning in the section above.)

Southern Region Operator of the Year
Steve Schramm
In charge of 2 crews, the Treatment Facilities (water/wastewater and the Collection system). Oversaw the design and building project of a new reverse osmosis water treatment plant. Also oversaw several plant upgrades over the past several years at the wastewater treatment facility. Works directly with the City of Waupun in regard to collection system improvements in conjunction with street reconstruction.

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Why Do You Feel Nominee is Deserving of Award Being Nominated For?
Steve has always been a great wealth of knowledge. Steve will help anyone who asks him for help. Steve takes his position in Waupun very serious and works every day to make sure the treatment plant puts high quality effluent.

West Central Region Operator of the Year
Craig Hendrickson
Craig started with the City of Eau Claire in 1990 as a Light Equipment Operator. He was promoted to a Utilities Supervisor in 1993 and then again to the position of Wastewater Plant Supervisor in 1996 and this is the position that he still holds.

He joined WWOA in 1996 and loves the organization, he has formed many friendships as a result of his membership and reaches out to members frequently to see how they handle certain situations and they also reach out to him.

Craig is the operator in charge of the City of Eau Claire Wastewater Treatment Plant, a 12 MGD plant that serves the Cities of Eau Claire and Altoona. In addition to the plant, he is responsible for the operation and maintenance of 24 lift stations located throughout the City.

He has 8 operators that work directly for him, along with 3 lab staff, an engineer and an assistant that he works very closely with to assure the best treatment possible and operation of the plant. The plant recently went through a 40 million dollar renovation and Craig was instrumental in guiding us through it while maintaining the existing treatment process. This was no small task and Craig should be very proud of this achievement!

The old form of treatment was RBCs and the plant was built in 1980 and had an estimated life span of 20 years but Craig was able to stretch that out to 35+ years. We are now an activated sludge plant and Craig has done a great job adapting to all of the changes and has figured out the challenges of this form of treatment. Craig has developed a preventive maintenance schedule for all of our new equipment on the computer. Craig works very closely with farmers in the area to furnish them with sludge. He has done an excellent job distributing sludge during the narrow windows in the spring before planting and the fall after harvest and before freeze up.

Craig is renowned for establishing an environment of teamwork at the Wastewater Treatment Plant. He understands the psychological aspect of people and is known to listen and comfort those in times of need. He is a man of faith and proudly displays a compassionate heart. Craig embodies technical skills that are second to none and his ability to lead people set him apart as an excellent candidate for the WWOA Operator of the Year!

Southeastern Region Operator of the Year
Tom Pluess
Tom is a great individual and an even better operator. In a short few years, Tom has gone from being in the State of Wisconsin Wastewater Apprenticeship program to becoming the Wastewater Plant Manager for the Village of East Troy.

Tom and I work for neighboring communities but working closely with each other when we need help. A great operator, such as Tom, is not just someone who finds problems, but also someone can put a plan into action to address those problems. Tom has become quite proficient in this field in a short amount of time, and I cannot think of someone more deserving of this award.
Scholarship recipients at the 2020 virtual conference

**WWOA Annual Scholarship sponsored by Crane Engineering**

*Brooke Lotto*

Dear WWOA,

It is my honor to be awarded the WWOA Scholarship sponsored by Crane Engineering to go towards my tuition. I am currently starting my second year in the Environmental Engineering - Waste & Water Technology program at Northeast Wisconsin Technical College. I will be graduating in Spring of 2021 with hopes of joining the workforce in the wastewater treatment field or continuing my education at the University of Wisconsin - Green Bay in Environmental Science & Engineering.

I want to again thank you for your generous donation towards my educational and career goals. Knowing that my community, the same community I hope to give back to while working in wastewater treatment, is supporting me through my journey is really intriguing. I was thrilled to discover that organizations in my community have as strong of a passion for restoring water resources and using them in a sustainable way as I do. I was drawn to apply for this scholarship because I want to continue my path towards becoming a steward of the environment and being able to “recycle” used water to our surface water streams. Environmental science and education is important to me because it teaches and motivates me to address complex environmental challenges in a world where most of those challenges are not being met. Through my journey thus far I have learned how my decisions today affect the environment in the future and I cannot wait to continue that journey. Because of your generosity, I can.

Sincerely,
Brooke Lotto

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**WWOA Annual Scholarship sponsored by WWOA**

*Gage Hirdler*

To the WWOA Scholarship Committee,

I want to extend my sincere gratitude for the $1,000 scholarship awarded to me for the 2020-2021 school year. The contribution you have made has greatly relieved me of my financial burdens. With the advent of CoVID-19 and the resultant quarantine measures, it has been a challenge to secure the funds necessary to pay for tuition as I continue my Bachelor's Degree in Environmental Engineering Technologies. In order to cover the costs, I worked as a third shift stocker at a local grocery store until I was hired as a Lab Assistant under my former professor at NWTC. I cannot express enough how grateful I am to receive the scholarship from WWOA.

My plans are to finish a Bachelor's Degree in Environmental Engineering Technologies at UW Green Bay and work at an engineering consulting firm or government agency.

Adaptive Management has been a very interesting topic to me, and the head of the Environmental Engineering Technologies program at UW Green Bay has conducted undergraduate research in this particular field. I hope to pursue these projects, and aid in the reduction of phosphorus and agricultural run-off in the Fox River watershed.

Once again, thank you for the $1,000 scholarship, and I wish the best for the WWOA in the upcoming year.

Kindest regards,
Gage Hirdler
Scholarship recipients at the 2020 virtual conference

WWOA Annual Scholarship sponsored by North Central Laboratories
Tyler J. Luebke

Dear WWOA and North Central Laboratories,

I was happy to learn that I was the recipient of the WWOA-NCL Tuition Scholarship. I am writing to thank you for your generous financial support towards my higher education.

I am a Wastewater Treatment Operator for the city of Sheboygan. I am currently enrolled in my Junior year at the University of Wisconsin – Green Bay. The bachelor’s degree that I am working towards right now consists of many different leadership classes. These two years of leadership work and the two years I completed at Northeast Wisconsin Technical College will boost my education greatly. My future goals involve moving up the ladder in the wastewater field. This could be anywhere from a lead operator to a plant supervisor.

Once again, I would like to thank North Central Laboratories and WWOA for organizing such an amazing opportunity for a wastewater student. I would also like to thank North Central Laboratories especially for the financial part of this scholarship. This opportunity now allows me to finish out all of my education goals.

Sincerely,
Tyler J Luebke

Dear WWOA Annual Scholarship sponsored by WWOA
Gavin Gurgel

Dear WWOA,

I am sincerely honored to have been selected as the recipient of the WWOA scholarship.

Thank you for your generosity, which has allowed me the opportunity to continue my education.

Gavin Gurgel
How to choose your winter work wear

Living in the Midwest, a long cold winter is as inevitable as pumpkin pie on Thanksgiving. While some take to the cold better than others, we can all agree that working outside in the winter presents a challenge! Outlined below is a list of the cold gear that we all wear (or have worn) to protect ourselves from old man winter, as well as some tips on what features to look for!

Step 1: The Jacket
When working outside, the first thing we may grab is our trusty jacket. There are many features to consider when choosing the right jacket for the job. First, are you going to be in an area that requires high visibility apparel? There are several OSHA mandates on this subject, but in general anytime a worker is in an area trafficked by vehicles, Hi-Viz is required. Next, you might want to think about the type of work you are going to be doing, particularly the activity level. For example, if you are working as a flagger on a construction site, which requires standing for long periods of time, you may want the thickest jacket you can find! However, if you are getting ready to do some heavy manual labor, a thick jacket might be too hot, leading you to remove it or get dehydrated. Another thing to look at is the lining, of which you can find fleece or quilted. Fleece linings, while warmer, can be hard to don and doff and may not work well with layers. Quilted linings often work better for layers as they are easier to don but are not as warm! The final thing to look at is the features, which is totally up to the wearer! Think about how many pockets you need (maybe a tablet pocket is necessary for your job), whether you want mic tabs, a hood (detachable or not), removable liners, reversibility, bomber style (short) vs. parka (long), black trim to hide dirt, Rip-Stop material for durability, waterproof, etc. There are so many features available in today's winter work jackets, it may be hard to choose. In the end, make sure you pick something warm, comfortable, compliant, and safe!

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Another option to consider is Hi-Viz gloves, and while these do not have any ANSI rating or OSHA requirement, they can help to increase visibility on the job.

Step 3: Insulated Pants/Bibs

Insulated Pants or Bibs are an excellent addition for extremely cold environments. Take note of the situation you are working in and what properties your bibs might need. Bibs are available in standard and Hi-Viz formats. The latter of which are ANSI Class E rated and are a bonus if your jobsite requires them. Again, insulated bibs are best for low activity or windy/extremely cold weather. Bibs are almost always quilt lined for ease of donning over pants and come with a variety of features and plenty of pockets. While not a requirement in a lot of scenarios, bibs or pants can be a nice addition to your winter work wardrobe!

Step 4: Footwear

What sort of boot you wear in the winter is heavily influenced by the type of job at hand (or in this case, afoot)! Often boots are purchased by the employee and not the employer, but for certain jobs (such as concrete work) overboots are an important safety item to keep the caustic liquid concrete from ruining work boots and (more continued on page 28
continued from page 27

importantly) getting on your skin. That said a wide variety of chemical resistant boots and over boots are available and provide excellent grip as well as protection. Another thing to consider are ice traction devices (ICDs), these are a great tool that reduces slip and falls in the icy conditions that come with winter. Traditionally, these are a stretchable rubber rig with metal studs that stretch over the sole of a boot to provide traction. However, there are new innovative ICDs that are made of gripping rubber to protect floors when going from outside to inside.

Step 5: Hats and Liners
Hats and Liners are the cherry on top of your winter ensemble and protect the part of your body that loses the most heat: the head! There are many different options available and these mostly depend on personal preference as well as the intended job. If you wear a hard hat to work, there are many liners that Velcro to the suspension in order to keep you warm and your hard hat on! These come in various insulation levels, all of which are quite affordable, so the choice is yours! Another option is balacavas and neck gators, all of which come in various designs, colors, and thicknesses. Top your winter outfit with the choice that is not only warm, but comfortable and safe!

The Clarifier needs you, your stories and your opinions

Do you have something to say? Have you solved a unique problem at your plant? Won recognition for a job well done? Hired someone new? Wish to share your opinion on an issue? How about telling us about it in the Clarifier?

The front cover of every issue includes the following statement: “The Clarifier is the publication of the Wisconsin Wastewater Operator’s Association and is intended to inform and educate the membership on issues related to the treatment and control of wastewater. All members are encouraged to contribute to the mission of the Clarifier.”

Submitting an article can be as easy as mailing a letter or sending an email. Perhaps you are not a typist or do not have access to a computer? No problem, just write your thoughts down on a piece of paper and we will do the rest. Or give me a call and we will figure something out.


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