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PUBLISHED FOR THE NATIONAL ONSITE WASTEWATER RECYCLING ASSOCIATION



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Published by Transcript Publishing 817 Central Avenue; PO Box 752 New Rockford, ND 58356 For Advertising Inquiries: Editor/Publisher: Amy Wobbema (701) 947-2417 amyw@transcriptpublishing.com

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A NOTE FROM THE PRESIDENT

Our industry was built on the research of many people, many of which came out of the University of Wisconsin-Madison Small Scale Waste Management Project. We lost one of those industry leaders, Dick Otis, this spring. As many of you know, I live in Minnesota, where I am proud to say Dick was born and got his undergraduate degree at the University of Minnesota. Dick and I got to know each other through both his work in the Midwest and with NOWRA. Dick had three things I truly respected - intelligence, passion and dedication. Aside from our roots, Dick and I shared a love for learning. In the 2000s, while I was working full time and working part time on my PhD, Dick would regularly ask me how my progress was going and remind me to not take 25 years like he did! Due to his progressive illness, Dick has been absent from our regular NOWRA activities for some time, but his presence is felt continually and will be a guiding force for years to come.

Now 40 years after this fundamental research, we are undertaking a research scanning project - NOW-R². Hopefully by the time you have this Onsite Journal in your hands you will have replied to the survey from now_r2@ baylor.edu, but if not please do. For this survey and process to be effective we need broad participation, so please take 10 minutes out of your day to let us know what your top research needs are. If you did not get an invitation to the survey, please send an email to info@nowra.org and we will be sure you get it.

Now that 2021 is in full swing and life is getting more back to normal, I am already looking forward to our annual Onsite Mega-Conference in October. Online meeting fatigue is real, and I know many of us miss the comradery of the interactions that just are not the same virtually. In the meantime, if you need training, two new modules are available from NOWRA on the online platform:

- 10 hours of Design Training
- 22 hours of modules from the 2020 Onsite Mega-Conference

If you need educational credits, always be sure to check which courses are approved in your jurisdiction using our interactive map on our website: https:// www.nowra.org/training/.

The federal lobbying activities are showing promise for in-



Sara Heger, President

creased grant funding for low to moderate income households to assist in the repair and replacement of septic system across the country. This is an important issue to stay abreast of later this summer and into the fall, as we may need your help to reach out to your legislators to support this grant program.

I hope this summer you stay busy getting new septic systems in the ground and taking care of the ones we have, but I also hope you find the time to enjoy life. As William Feather so well stated, "One way to get the most out of life is to look upon it as an adventure."



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STATE AFFILIATE NEWS

GEORGIA ONSITE WASTEWATER Association (gowa)

GOWA will hold its Annual Conference August 20 - 21, 2021 at the Columbus Convention and Trade Center in Columbus, GA. This event will serve as the kick-off for the educational cycle and will offer the opportunity for pumpers and installers to earn their CEUs, while building and strengthening relationships in the industry and learning about new products and services. Exhibit and sponsorship opportunities are available, and more information can be found on the GOWA website www.georgiaonsitewastewater.com or by calling the office at 706-407-2552.

OHIO ONSITE WASTEWATER Association (oowa)

Contractors in Ohio have been very busy the past year, and we have seen the industry grow beyond expectations. We experienced cold weather and lots of rain for the month of May. This caused a great deal of mud, which is never fun to work in. The OOWA Board of Directors decided in late 2020 to postpone the 2021 Annual Conference. We feel that it is very important to still be able to provide learning and networking opportunities to the membership, so we are currently planning a number of small events for 2021. Every two years, the association hosts the OOWA Service Provider O&M Training. This year, we are looking to have it take place on November 16 & 17. Finally, the OOWA Annual Conference is taking place on January 4 & 5, 2022.

OOWA is excited to share that we recently became a state affiliate of NOWRA. The Board of Directors and the membership have been able to gain more access to industry leaders and resources. We have taken advantage of offering online CEUs through NOWRA and are glad to share that the membership has used the platform to keep up on their continuing education requirements.

TENNESSEE ONSITE WASTEWATER Association (Towa)

The Tennessee Onsite Wastewater Association (TOWA) has scheduled its annual educational conference and tradeshow for August 24 & 25 of this year. This IN PERSON conference will be held at the newly renovated Montgomery Bell State Park Inn and Conference Center, which is 50 miles west of Nashville off I-40. Attendees will have the opportunity to earn 14 hours of continuing education credits in topics that range from ethics and professional responsibility to ground penetrating radar, LIDAR, and the Global Positioning System. Potential exhibitors contact Lonnie Norrod at Inorrod6@gmail. com; registration for attendees should go to www.tnonsite.org.

WISCONSIN ONSITE WATER RECYCLING Association (Wowra)

Our five-part virtual series on POWTS was a huge success this past March, with all of the five sessions having more than 100 attendees and one reaching more than 150! In May, we held a program on Trenching & Excavation Safety, with OSHA presenting to a group of more than 30. Already we are planning our next programs, with a five-part program for POWTS Evaluators in December and our Annual Conference planned – in person again – for January 13 & 14 in Wisconsin Dells.

We continue to work on legislation that would enhance Wisconsin's POWTS rehabilitation fund – eliminating a sunset, increasing the number of eligible systems, and raising the income limits to qualify. We are also working to find a path to increase the number of POWTS plan reviewers in our state. Beyond the legislature, we're working with our regulatory agency to improve the plan review process and keep it running smoothly during another big year for POWTS installers in our state.

YANKEE ONSITE WASTEWATER Association (Yowa)

YOWA represents the six New England states. YOWA published the spring version of its bi-annual newsletter in May. A virtual training session was offered in February in collaboration with the Massachusetts Alternative Septic System Test Center (MASSTC). Over 67 people from all interests within the industry participated, and CEUs were offered by the Massachusetts Department of Environmental Protection (MassDEP). A Boston-based attorney provided a very interesting article titled "When IS a Room a 'Bedroom' and Who Decides." YOWA provided an update on the improvements being made to its website, and proudly reported on its own Tom Groves becoming Executive Director of NOWRA. Finally, YOWA shared the sad news of the passing of Russ Martin, a founder and past president of YOWA.

NOWRA conducts bimonthly calls with our state affiliate organizations. For more on NOWRA's affiliate state organizations, visit our web site at: www.nowra.org/. about/state-organizations/

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by Tracy Hammond, Polsinelli

President Biden and Congressional Democrats continue to work on a massive infrastructure package that will likely include substantial water development programs in addition to much-needed funding for roads, bridges, transit and broadband. While some Republicans do recognize the need to improve and expand the nation's infrastructure, there are vast differences on what policies to prioritize and how to pay for any new projects. Negotiations will continue throughout the summer and likely into the fall before any final compromise is reached.

Throughout this process, NOWRA has continued to advocate for a more equitable balance of federal resources for those that rely on onsite systems around the country. On this front, we've had some initial success. In May, the U.S. Senate overwhelmingly passed S. 914, the Drinking Water & Wastewater Infrastructure Act (DWWIA) of 2021. The bill, which would invest more than \$35 billion in water resource development projects across the country, was unanimously approved by the Senate **Environment & Public Works** (SEPW) Committee back in March.

Of particular importance to NOWRA, DWWIA would establish a new grant program that would help homeowners install and replace decentralized wastewater systems. If enacted, Section 208 of the bill would authorize \$50 million of annual funding for this program for Fiscal Years 2022 –

LEGISLATIVE UPDATE

2026, for a total of \$250 million. This new program:

• creates a grant program that allows nonprofit organizations to receive funds for the construction, refurbishing and servicing of decentralized wastewater systems for low or moderate income households, or cluster systems for groups of such households

• gives priority to households that do not have access to sanitary sewer disposal systems

• requires that EPA submit a report to Congress on the results of the program within two years of enactment of the Act

In addition to DWWIA, NOWRA continues to work with Members of the House of Representatives to formally reintroduce similar legislation in the lower chamber that would create this decentralized grant program. Additional education and advocacy work needs to be done in order to build support for the legislation with both Democrat and Republican Members.

NOWRA leaders are also engaged with other Congressional offices on two efforts to better fund the US Department of Agriculture's **Decentralized Water Systems** Grant program. Specifically, there is interest in dramatically expanding the program by potentially hundreds of millions of dollars over the coming decade. NOWRA and other stakeholders are working with senator staff on language that would attempt to balance the need to get funding out the door as quickly as possible, while also providing flexibility to homeowners and direct R&D spending to help deploy systems to areas with more difficult physical environments. Separately, NOWRA led a joint letter of allied

stakeholders to support funding for the Decentralized Water Systems program through the regular FY 2022 appropriations process.

Separately, President Biden has formally nominated Radhika Fox to head the US EPA's Water Office as Assistant Administrator. Fox previously led the U.S. Water Alliance, which advocates for sustainable water management and infrastructure. She also did policy and government affairs work for the San Francisco Public Utilities Commission. Fox currently serves in the position on an acting basis.

Appearing before the SEPW Committee, Fox was asked what her priorities would be if confirmed. She said they would include "mak[ing] sure the Office of Water is implementing the range of water infrastructure funding and financing programs this committee has taken so much leadership on developing." Another priority, Fox said, would be addressing per- and polyfluoroalkyl substances (PFAS) and other emerging contaminants.

Tracy Hammond is a Senior Policy Advisor with Polsinelli's Public Policy Group in the firm's Washington Office. He advises clients on federal legislation and regulation in the areas of infrastructure, water and environmental policy and serves as one of NOWRA's lobbyists in Washington, DC.

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Homes in the Town of Lake Santeetlah with small "grandfathered" lots and steep, rocky sites present challenges for effective onsite wastewater management.

PLANNING FOR SUSTAINABILITY

Robust Decision Making and Adaptive Management Help Communities Effectively Manage Wastewater

By Victor D'Amato

When leaders in the Town of Lake Santeetlah (TOLS) received a \$5M estimate to collect and convey wastewater miles across rugged terrain and over pristine surface waters to the nearest centralized treatment plant, they knew there had to be a better solution to undersized and aging septic systems in this scenic North Carolina mountain town of about 200 homes. After all, even relatively uninformed members of the public have seen the headlines in the popular news media touting space-age, building-scale water recycling technologies, and other innovative wastewater systems. Surely there had to be a way to bring resilient and affordable wastewater management to those residents with problematic onsite wastewater systems (OWS),

while respecting their residents' preferences and property rights.

TOLS is not alone. Communities large and small throughout the United States struggle to make sound water infrastructure decisions, and then face intense backlash when prohibitive cost estimates are presented. So-called "septic to sewer" initiatives in multiple high-profile areas in the U.S., while well-intentioned, often miss the mark of targeting the right drivers and addressing stakeholder concerns from the outset. For example, septic to sewer initiatives in Cape Cod, Massachusetts in the 2000s were met with strong community resistance, leading regional authorities and local jurisdictions to adopt plans that rely on a multi-sectoral approach to

reducing nutrient loading to coastal waters. "Sewering" to replace existing OWS received less support from residents due to its high estimated costs (over \$50,000 per home in some cases) and problematic secondary impacts (e.g., growth pressures). Understanding the connected nature of coastal embayments on the Cape led the Cape Cod Commission to develop a Regional Wastewater Management Plan and an Area-Wide Water Quality Management Plan intended to provide an adaptive, rather than prescriptive, framework for making progress toward meeting nutrient loading targets established by Total Maximum Daily Loads (TMDLs).

As in many areas – particularly along the Eastern Seaboard of the U.S. – wastewater planning initiatives on the Cape were driven by a need to reduce nitrogen loading to surface waters. The resulting plans include a suite of activities for reducing nutrient loads including centralized sewering (where affordable), upgrades to existing OWS, cluster systems, and a variety of non-traditional water quality management options (e.g., dry toilets, permeable reactive groundwater barriers, stormwater BMPs, ovster mariculture). Communities on the South Shore of Long Island, New York having similar issues as Cape Cod (e.g., densely settled communities on old OWS, nutrient enrichment of coastal embayments) have focused much of their energies toward upgrading OWS, particularly the most problematic ones (e.g., cesspools) while centralizing wastewater collection and treatment in village and town centers.

The cost implications of septic to sewer conversions are typically substantial, particularly considering the amount of nutrient loading reduced (i.e., cost per unit mass of nutrients removed), the uncertainty around potential load reductions and time scale during which delivered load reductions are realized, and the secondary impacts of sewering. Clearly, robust upfront planning is an essential element of any area-wide effort to address problems with existing OWS. In the halls of the Maryland Department of Environment (MDE), conversations often revolve around two of their challenging goals: meeting the State's obligations under the Chesapeake Bay TMDL and providing effective and reliable wastewater systems to historically underserved communities.

Although TOLS and MDE might not

appear to be similar, their challenges - namely protecting water quality and ensuring effective wastewater management - are indeed linked, with the main difference being a question of scale. In contrast to approximately 200 systems in TOLS, the State of Maryland has approximately 420,000 soil discharging OWS, including about 52,000 in the Chesapeake Bay critical area (within 1,000 feet of Bay tidal waters). As a key member of the Chesapeake Bay Partnership (CBP), MDE has been a leader in proactive OWS management. Since 2006, the MDE has awarded funding for sewering or upgrading with best available technology (BAT) over 12,000 septic systems through the Bay Restoration Fund (BRF) Onsite Sewer Disposal System grant program. MDE has also been an instrumental participant in the CBP Wastewater Treatment Work-







The CBP Attenuation Panel developed a treatment and attenuation framework that helps estimate pollutant load delivery associated with OWS.

ing Group (WTWG), under which several Expert Panels were formed to address nitrogen loading associated with OWS. One such Panel the CBP's OWS Total Nitrogen (TN) Attenuation Expert Panel - recommended spatially-variable, scientifically-supported improvements to the CBP's TN load estimation methodology (previously, the CBP assumed the same reductions for all OWTS within the Chesapeake Bay Watershed regardless of site characteristics or geographic location). The Panel's work, which concluded with a final report, approved in 2016, included three main steps:

1) Developing a conceptual framework for evaluating and communicating nutrient removal processes in OWS.

2) Conducting a literature review focused on TN removal in OWS and the hydrogeomorphology of and the relative transmission of TN through varied watershed geologies.

3) Using modeling (Colorado School of Mines' STUMOD and USGS' SPARROW models) to corroborate findings from the literature.

The Panel's nitrogen loading recommendations are now being

used in the OWS sector within the Chesapeake Bay Watershed, but as importantly, the framework and resulting attenuation estimates are a model for TOLS, Long Island, and virtually any other area addressing the water quality impacts of OWS.

MDE has already leveraged the Attenuation Panel results to inform its Phase III Watershed Implementation Plan (WIP) while targeting those underserved communities of concern. Through the CBP, MDE created a tool that uses existing spatially referenced state data to make more robust, scientifically based OWS upgrade or retrofit prioritization decisions that feature favorable nitrogen load reduction/ cost ratios. The resulting methodology includes (1) techniques for data pre-processing to generate a "baseline" GIS layer of potential project sites (focused on areas with high densities of legacy OWTS); and (2) a multi-criteria decision analysis (MCDA) tool to prioritize potential project sites by their risk (focused on nitrogen loading but also including other co-benefits and confounding risk factors) and upgrade or retrofit feasibility (Tetra Tech, 2019). The MCDA tool allows for variable weighting of individual components of the assessment based on user-selected objectives and data quality ratings and generates feasibility ratings for sewer extension and decentralized system upgrades as outputs. The methodologies and tool were tested using campgrounds and mobile home parks (MHP) in Maryland as historically underserved areas likely to feature high densities of legacy OWTS that could be targeted for upgrade or retrofit projects. The outputs allow for potential projects to be rated and ranked for both the risk of existing OWS (e.g., nitrogen loading) and the feasibility of a project to mitigate those risks. Projects falling into the high risk/ high feasibility category would be favored for additional analyses to validate the results and move forward with implementation as warranted.

Back in TOLS, Town leaders developed an adaptive decentralized wastewater management plan which demonstrated to reluctant residents that the community's wastewater management objectives could be met by taking small steps, and without sewering and associated sunk costs. After multiple meetings with community leaders and stakeholders, a set of recommendations were provided to help TOLS move forward with a more proactive wastewater management approach while respecting the community's reluctance to TOLS providing full wastewater services at this time.

1) Raise awareness among residents and elevate the discussion about wastewater management, through a public education campaign

2) Better understand existing onsite wastewater systems in the Town and any problems using field inspections, permit file reviews and property owner surveys

3) Better understand local impacts of onsite systems on water quality, by increasing sampling locations especially nearshore during high use periods

4) Provide options for individual property owners and groups of property owners, by sharing infor-

mation, facilitating discussions, and brokering access to land for small cluster systems

5) Take proactive steps to mitigate potential future problems with onsite systems, by securing access to potential cluster sites via purchase, long term lease, etc.

Clearly, wastewater management decisions are highly specific to the community and its context. However, all wastewater management planning processes can be simplified by focusing on three main efforts:

• Inventory of existing wastewater systems, including OWS

• Prioritization of existing wastewater systems for enhanced management

• Management planning and implementation

Whether evaluating OWS in TOLS or the State of Maryland, the tools and approaches illustrated in these case studies and in other communities, applied within the Inventory-Prioritize-Manage framework, can be used to help solve even the most vexing wastewater management challenges.

About the Author:

Victor D'Amato is the Supervisor of the Viable Utilities Unit in North Carolina's Division of Water Infrastructure. Prior to returning to state government in May 2021, Vic worked for 21 years as a consulting engineer with Tetra Tech and ARCADIS. Vic earned his BS in Civil Engineering from Penn State University and his MS in Water Resources Engineering from the University of North Carolina at Chapel Hill. He currently serves as the Vice Chair of the Small Community Committee of the Water **Environment Federation.**



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TAKE A CHANCE ON ME

Jim King, President of Eljen Corporation

While the young men and women leaving the military may not know the greatest hits from Abba, they know the song "Take A Chance On Me." The song encapsulates their single all-consuming thought as they look for their first job after the military, hoping anyone out there will see them for the leader they are and not just another unqualified soul walking through the door. I can speak from personal experience that Veterans can shape your business and community. In the past election, 182 veterans ran for Congress, and at this moment, 91 veterans serve in Congress.

Closer to home, you will find veterans working in your local community. The average veteran is more likely to have a high school diploma or higher education than their civilian counterparts. You will find that they are problem solvers, motivated, and some of the most determined workers you can find.

I am lucky and work for a company started by a WWII veteran, LTC Joe Glasser. Upon returning home from war, Joe was an educator at the University of Connecticut and later became an entrepreneur in 1970. In the early 90s, his company was still fragile, but Joe took a risk and started a manufacturing company here in Connecticut. He hired Jim Donlin, a Staff Sergeant, who as a young man served in Korea, and who would later deploy to Afghanistan as crew chief in Chinook helicopters in 2003. Jim was instrumental in designing the machines and processes to keep the company growing.

Later the family grew to include more. Most of these veterans served, with deployments to Iraq and Afghanistan. These names do not include the many people in our factory who have served and fought in other countries like Bosnia before immigrating to the US. Their jobs in the military ranged from tank mechanic for a reconnaissance team that operated along the Iron Curtain to sonar tech on US Navy attack subs operating in classified waters.

When deployed, all branches rely on these operators for the lifeblood that keeps the military moving forward. They use teamwork to control a very volatile site with many moving parts, a place where carelessness can lead to tragic outcomes.

No matter what branch these team members come from, the expectation is that they will be a team member. They have worked in the most austere environments, compounded with stress and confusion. Most have trained since high school to not buckle in these environments but to thrive. Their work ethic is beyond reproach. And none of those are my top reasons for filling my team with veterans.

The people we hire have never been in our industry. They have no background in environmental engineering or product support. What they do have is the ability to lead and adapt. These are the most flexible people to changing situations, able to solve problems quickly and creatively.

According to Training Industry Quarterly, employees take from one to two years to become fully productive. For any business, this is a substantial investment to get a new employee to fully productive status. The delay in becoming fully productive is from a lack of understanding their first tasks, figuring out the organization, and determining the metrics for a job well done.

Veterans become productive quickly, acknowledging the team, their weaknesses, and their strengths. The team works together to build the new employee and get them on board as soon as possible. Veterans are their own training program. The leaders in the group emerge and ensure the team is moving in the right direction to accomplish the task.

Each veteran shares a common bond that continues from their



former life to their new life as a civilian. The ability to put them into another environment with veterans makes the transition from military life to civilian life more manageable. They come to work with the values, traditions and expectations resonating in them from when they served. The result from hiring veterans is you get a well-trained, quickly adaptable employee who can change the face of your company in a matter of months rather than years.

What has made the generation of veterans entering the workforce, returning home so great? The answer is simple. Every veteran who came before us made us who we are today. They taught us how to march, how to stand up straight, how to be the men and women that represent our armed forces today. Those who came before helped shape our values and our courage. To know we carry on the traditions of the past and are responsibly instilling those traditions in the ones that come after us is a tremendous responsibility. I can say to those who served before me; you did an excellent job; I hope we do not let you down.

Hire a veteran. It has the potential to change the face of your organization. If it does not, I am sure you will be pleased with the efforts and commitment of your new hire, as veterans are committed to completing the job. And even if it doesn't change your organization, hiring a veteran changed their life and their family's life. And that brings immeasurable satisfaction.

Take A Chance On Us!

About the Author:

Jim King is the President for Eljen Corporation. He finished his engineering degree at the University of Connecticut and joined the military. Mr. King was a Captain in the US Army, serving two deployments to Iraq. After his military career, he returned to Connecticut where he finished his MBA and found a home at Eljen. In 2019 they were awarded the Federal HireVETs Small Business Platinum Award.







REMEMBERING DICK OTIS

By Charles Otis

Richard "Dick" Otis, 76, of Madison, WI, died in Madison, Wisconsin on Sunday, February 28, 2021, after a long battle with Alzheimer's Disease. He was born at Oakland Naval Base on October 9, 1944, to Chuck and Janet Botts Otis. Dick grew up in St. Paul, Minnesota, near the University of Minnesota campus, where his dad was a Professor of Agriculture. Dick is survived by Barbara Lee, his wife of 39 years, son Charley and daughter Joanna.

Dick attended the University of Minnesota from 1962-66 and earned a degree in geophysics. In 1965, he accompanied the Summer Community Organization and Political Education Program (SCOPE), to Georgia where he helped register disadvantaged people to vote. He spoke fondly of this time and often said the experience shaped his moral compass.

He objected to the reasoning for the Vietnam War and was granted a 2-year deferral to join the Peace Corps. He was assigned to the arid Turkana region of Northwestern Kenya. He was tasked with organizing residents to build wells. This experience was profound and helped to shape his adult personality as well as to kill any ego he may have had. It also gave him direction for his future career.

He returned from Kenya in late 1969. He applied to the University of Wisconsin Engineering School and began a master's degree in Sanitary Engineering. In the early '80s, Dick, UW Engineering graduates Damann Anderson, Bob Siegrist and UW Soil Sciences graduate Dave Hargett formed RSE (Rural Systems Engineering). They focused on designing onsite wastewater treatment systems. RSE attracted the attention of another UW Engineering graduate, Dean Schultz of Ayres Associates in Eau Claire, Wisconsin. Dean was helping to establish an Ayres environmental group in Madison and made the offer to acquire RSE. Dick was VP of Onsite Wastewater Systems for Ayres for many years. When he retired from Ayres, he started Otis Environmental Consulting.

In 1998, Dick's UW Engineering professor and good friend Bill Boyle was planning to retire. However, Bill was determined not to retire until "Otis finished his PhD!" Dick had set PhD plans aside when the kids were born because he was traveling so much. However, at Bill's behest, he dusted off his research on small-scale distribution systems and spent a year writing his thesis, while still almost constantly traveling. He was awarded his PhD 25 years after he started his research, and he joked that to pass his orals he just needed to outlive his committee.

Over the years, septic systems took Dick around the world. In 1980, fellow UW Engineering graduate Professor Torleiv Bilstad invited him to teach a semester at the University in Stavanger (UIS), Norway. He consulted in places like Trinidad, New Zealand, Nigeria, Tunisia, Egypt, Israel, Jordan, American Samoa as well as Europe and the United States.

Dick worked on experimental systems, notably the Wisconsin Mound System and drip irrigation systems. He helped write policy and standards for the EPA and Wisconsin DNR. One of his most memorable consulting gigs was in Brazil for the World Bank. After retiring from Ayres, Dick became a men-



Discussing the design of a drip system during an installation in Troncones, Mexico.

tor for Engineers Without Borders (EWB-UW). During the eight years he mentored EWB, he accompanied groups of UW students on working trips to El Salvador and Kenya. His fluency in Swahili came in handy on the four trips to Kenya.

Dick was active in the professional organizations WEF, WOWRA, AWWA and particularly NOWRA. In 2013, he was surprised and touched to receive the inaugural NOWRA "Richard J. Otis Industry Achievement Award."

Things began to become difficult in 2014 when he was diagnosed with early onset Alzheimer's at age 68. Dick was a humble man, known as a guy who asked for nothing and gave everything. He gladly shared his expertise with anyone who was interested. He ascribed to Harry Truman's philosophy: "It is amazing what you can accomplish if you do not care who gets the credit."

His sister Peggy sums Dick Otis up best: "Dick was gifted, smart, inventive, capable, thoughtful, kind and humble. He led a productive life and contributed to a greater world."



Signing the EPA Decentralized Wastewater Management MOU as NOWRA president in 2011.



At his son Charley's Master's graduation ceremony from the University of Stavanger in Norway in 2013.

By Jerry Stonebridge, NOWRA past president

I worked on several committees with Richard (Dick) Otis during NOWRA's formative years in the early 1990s and recognized his ability to integrate ideas and put them into a complete, understandable document. I didn't get to know the person "Dick" until we served together on the National Decentralized Water Resource Capacity Development Project from 1996 – 2004. Dick opted to work on Regulatory Reform projects. He said he wanted to take a break from the science side. It wasn't long before we were calling on Dick to help out with one of our Environmental Science and Engineering projects, and as usual, he was more than willing to help.

We traveled around the country to the states that had been awarded grants for Onsite Demonstration Projects. After meeting with Community Members and Project Managers during the day, we would retire to the motel and do a review of the day, followed by an open forum on whatever philosophical topic came up – always an interesting discussion and learning experience about our different personalities and thought processes. Dick and I also found out we both liked Crown Royal – which may not have been a good thing...

Dick Otis was a kind, thoughtful, brilliant person who was willing to give his time for the betterment of all others. He will always be remembered as a leader in the field of decentralized infrastructure and missed at all levels.

Some NOWRA History

By Bob Mayer, NOWRA past president

Dick Otis was involved with NOWRA from the early days of the association. He was asked to chair the Technical Practice committee, which was a natural for him. Through his technical involvement with most alternatives for onsite wastewater design and his experience with EPA for manual writing, Dick provided NOWRA with leadership and education for all members involved with these issues in their professional activities.

In the early 1990s, soon after NOWRA was formed, the EPA was working on management guidance for onsite wastewater systems. They had come to realize the importance of onsite wastewater systems to be part of the permanent wastewater infrastructure for the country. Dick led the association in developing a consensus of practitioners as to what was needed for best practices in onsite wastewater management. In conjunction with best management practices, Dick saw the need for a comprehensive approach to program management to assure the success of onsite systems. A Technical Practice Committee meeting was convened at the University of Rhode Island to determine what should be the elements of any onsite wastewater program. There was a day of discussion, which was somewhat scattered and mostly left the issue unresolved. Dick arrived late and changed the entire direction of the discussion. He led the effort to develop what is now known as the "Strategic Framework for Unsewered Wastewater Infrastructure" that can be found on the NOWRA website.

By the late 1990s, the EPA understood that onsite wastewater systems were a reliable and permanent part of the nations' infrastructure. This resulted in a report to congress supporting this belief. Dick was asked to testify in front of the congressional committee of jurisdiction as an industry expert witness, where he gave a full-throated testimony in support of the EPA findings. This early activity led to NOWRA gaining national credibility, and added substantially to the success of our current lobbying efforts.

NOWRA received EPA funding to develop a national onsite wastewater code with the idea that states could adopt these best practices that have gained consensus of the national association of "experts." When the development stalled, Dick took the responsibility to finish the report to complete the deliverables to the EPA for NOWRA.

Dick was a mentor and friend to countless industry professionals. He was always ready to share his knowledge and judgment whenever asked. Dick considered himself not only an engineer but also an environmentalist, always trying to make the world a better place.

RICHARD J. OTIS AWARD FOR INDUSTRY ACHIEVEMENT

The Richard J. Otis Industry Award for Industry Achievement was established by NOWRA in 2013 to recognize and honor past president Richard "Dick" Otis for his service to NOWRA and for his many contributions to the industry.

In the mid-to-late 1970s, the EPA realized that "onsite" (septic systems) were an important and permanent part of our national infrastructure solution. They funded research to include the engineering necessary to establish standards for onsite system design. Dr. Otis was a leader in this activity to define the capabilities and science behind the appropriate application of onsite wastewater for the nation.

Dick spent his entire profession-



Dick Otis (left) accepts the Richard J. Otis Industry Achievement Award from then President, Tom Fritts, during NOWRA's 2013 Annual Conference.

al life volunteering to help and educate those working to improve water quality and public health practices in the water environment. He worked with the "Peace Corps" in Africa on drinking water issues and then with "Engineers Without Borders," teaching internationally the next generation of engineers the benefit of technically appropriate engineering solutions for water issues. Dick guided NOWRA's **Technical Practices Committee in** the early days and later served as the president of NOWRA from 2010-2012.

Dr. Otis was the principal author for several EPA manuals (purple books) plus numerous research papers during his tenure at the University of Wisconsin.



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Thomas Groves, Exec. Director

I am very excited to be the new Executive Director of NOWRA. I began in late January and hit the ground running, but truth be told, I had already been getting up to speed well before then. Having prior experience as a NOWRA Board Member and past president gave me insight into the needs of the position and the requirements of being Executive Director of NOWRA. This year has been a whirlwind so far for NOWRA, as most of society returns to some form of normalcy after the pandemic filled 2020. Plans are underway for our Onsite Wastewater Mega-Conference to be held in-person in San Marcos, Texas in mid-October. Many in our industry are looking forward to in-person trainings and conferences once again, as long as they can be done safely. We are making appropriate plans for the 2021 Mega-Conference, which will also feature a virtual component for those who are not able to attend in-person. Our 2020 virtual Mega-Conference was a huge success, and we have since converted many of the sessions to an online course; however, many of us missed the networking and other aspects that come along with an in-person event.

I plan to continue to grow NOWRA as my predecessor Eric Casey did (see page 23 for related story). Look for more communication from NOWRA in various forms, such as this issue of the Onsite Journal. We are pleased to have a new, successful relationship with Transcript Publishing to continue to expand the Onsite Journal, which will now

EXECUTIVE DIRECTOR'S MESSAGE

feature four full issues per year. In addition to the print publication, watch for regular email communications to the full membership keeping everyone apprised of upcoming events, such as 2021 Onsite Wastewater Mega-Conference Call for Abstracts, research needs survey,



legislative Fly-In, and new online course offerings.

Unfortunately, 2021 has also been bittersweet, as this year has been filled with too many personal and professional losses in our industry. As our spring issue highlighted, I lost a near and dear friend in Ron Suchecki shortly after starting this position. Part of my excitement about taking on this new role was looking forward to working with Ron on NOWRA and specifically, the 2021 Mega-Conference being held in his home state of Texas. We became good friends after meeting on the NOWRA Board of Directors in the mid-2000s. It was probably our New England sarcasm that drew us to each other, as Ron had spent some time in his earlier years growing up in Connecticut and New Hampshire. He will be forever missed.

The recent passing of Richard "Dick" Otis is another large loss for our industry (see related stories on page 16-18). Not only was Dick my vice-president when I was president of NOWRA in the late 2000s, but he was also an extremely knowledgeable, wise, and compassionate man – an icon to the onsite industry. I first met Dick in 1990 when I was a young professional at NEIWPCC, and Dick was one of our keynote speakers for our first

regional onsite wastewater conference. He was nationally known at that time, and I remember being a bit intimidated meeting him and picking him up at the airport, but he was extremely friendly and down to earth. He was always a gentleman. I was extremely honored to be awarded the

Richard J. Otis Industry Achievement Award in 2017.

And most recently, we just learned of the passing of Russell Martin. Russ was a long-time NOWRA State Affiliate Committee Chairperson as well as a past president of NOWRA's New England affiliate, Yankee Onsite Wastewater Association (YOWA). I knew Russ for many years as the onsite regulator for the state of Maine as well as with the State Onsite Regulator's Association (SORA), and with our roles in YOWA. He was a quiet professional.

My new tenure here at NOWRA will not be the same without these gentlemen, as they each affected me personally and professionally. I will try to honor their memories by being the best Executive Director I can be for NOWRA. I have outlined many goals for myself and NOWRA over the next several years. I will highlight those in upcoming issues, but in the meantime, please enjoy this issue of the Onsite Journal. I look forward to serving this organization.



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INDUSTRY NEWS

CELEBRATING 25 YEARS IN THE GLOBAL WATER AND WASTEWATER TREATMENT INDUSTRY

On April 19, BioMicrobics, a global manufacturer of integrated water solutions, celebrated its 25th anniversary. The company has spent a quarter of a century in the water and wastewater treatment industry, manufacturing wastewater, greywater, recycling and water reuse treatment systems to provide solutions for small communities, commercial properties and decentralized homes. BioMicrobics has committed itself to creating technology to aid in efficient water management.

Reflecting on 25 years in business, BioMicrobics President Bob Rebori said, "You can have good products and good policies, but it's the people that are our greatest assets. Without the remarkable dedication of our associates with the support of their families, our distributors, and our industry, BioMicrobics would not be the company we are today. 25 years of Simple – Low Cost – Robust systems.

"The idea of simple, low cost, and robust is not only a mantra entrenched in everything we do. It's the secret to our success. A lot of experience goes into the product development and real world applications in wastewater, stormwater, greywater, water, ballast water treatment systems land and sea."

INFILTRATOR DONATES OVER 100 Septic systems for habitat homes

Infiltrator became a Corporate Partner of Habitat for Humanity International in 2017. Through our partnership in Habitat's Gifts In Kind (GIK) program, Infiltrator donates product for septic systems to local Habitat affiliates throughout the United States. In addition to product and monetary donations, Infiltrator employees also volunteer their time to assist at Habitat home construction sites.

Since 2017 Infiltrator has part-

nered with 75 local Habitat affiliates in 23 states to donate products for over 125 septic systems. Our donations to Habitat affiliates are coordinated through a local distributor.

We work with the Habitat affiliate's selected septic system designer and installer or, if needed, we'll offer recommendations based on our existing partnerships in that area. In many cases the Infiltrator Area Sales Representative assists with the installation of the donated product.

If you're interested in working with us on a Habitat project in your area, reach out to your Infiltrator Area Sales Representative or send an email to info@infiltratorwater. com.

Stay up to date on news from NOWRA corporate members in this recurring feature, which highllights new staff members, retirements, corporate acquisitions, promotions, special projects, anniversaries, etc.



SAVE THE DATE! 2021 Onsite Wastewater

Mega-Conference October 17-20, 2021

San Marcos, Texas

The Onsite Wastewater Mega-Conference is the largest event of its kind and offers decentralized professionals the highest quality education and training available. It is a combined effort of the National Onsite Wastewater Recycling Association (NOWRA), the National Association of Wastewater Technicians (NAWT), the State Onsite Regulators Association (SORA), and the Texas Onsite Wastewater Association (TOWA).

Watch for Exhibitor and Attendee registration opening soon.

Visit our Conference Website for details: https://www.nowra.org/conference/mega-conference/

THANK YOU ERIC CASEY



Executive Directors past and present: Eric Casey and Thomas Groves

The NOWRA Board of Directors would like to thank Eric Casey for his 10 plus years of service to NOWRA. Hired as NOWRA's first official employee Executive Director, Eric took over leadership of NOWRA during a very difficult time and economy. He helped professionalize NOWRA all while growing the organization to where it is today. NOWRA currently stands at over 5,000 members and 24 affiliate organizations representing 29 states.

Under Casey's leadership, NOWRA has created a Lobbying Board of Governors, which has begun to help influence legislative activities as well as provide funding for the onsite/decentralized industry. He was also instrumental in forging partnerships with EPA and some of our Decentralized MOU partners, such as our annual Onsite Wastewater Mega-Conference which is co-sponsored by NAWT and SORA. NOWRA's online learning academy was also created in the past few years, which now places NOWRA in a great position to meet the continuing education requirements of our state affiliate organizations while also sharing revenue with our affiliates. We wish Eric well in his retirement, where he can spend some time doing other things he loves, such as gardening, traveling, and baseball. He will be missed by the organization.



One of Casey's parting gifts from the NOWRA Board of Directors was this custom Washington Nationals baseball jersey.





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