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SPRING 2022



inside:

NEW YEAR'S RESOLUTIONS

Five resolutions for water industry professionals

10

MUTUAL AID PROGRAM

Emergency aid request rescues City of Wellington

14

FACING UP TO STRESS

Recognizing stress and reducing negative effects

20

Providing resources and a network for Kansas to responsibly manage water

Understanding the Bipartisan Infrastructure Law and the Kansas SRF Program

by William Carr, Kansas Department of Health and Environment

Anticipation started to build last summer for both water and wastewater utilities in hopes that congress would increase funding for infrastructure projects as the U.S. Senate developed a bipartisan infrastructure bill. Although the legislative journey was long and uncertain at times, the Infrastructure Investment and Jobs Act (IIJA) was signed into law Nov. 15, 2021 (P.L. 117-58). To highlight the bipartisan nature of the law, the White House soon began referring to it as the Bipartisan Infrastructure Law (BIL). No matter which name you hear, they are the same law, and utilities can start applying for some of the funds the law made available in the very near future.

continued on page 12

CONTENTS

1	Understanding the Bipartisan Infrastructure Law and the Kansas SRF Program	15	Patent Pending for Mini-Composite Elevated Tank Process
3	News from the Chair	17	Attracting Talent Takes Teamwork
4	Section Manager's Report	19	Member Spotlight: Roopa Matole
6	Director's Report	20	Facing up to Stress: How to Recognize the Symptoms and Reduce the Negative Effects
10	Five New Year's Resolutions for Water Industry Professionals	23	Success in Salina: South Well Field and Water Treatment Plant
14	Kansas Mutual Aid Program Emergency Material Request Rescues City of Wellington	29	Memorial Tribute to Ross E. McKinney, Sr.

ADVERTISER INDEX

Black & Veatch.....	22	Pittsburg Tank & Tower.....	11
EPEC.....	9	R.E. Pedrotti Co, Inc.	18
Ford Meter Box	22	Surveying and Mapping	22
HDR.....	21	Wilson & Company	23
Olsson	32		

News from the Chair

by Katie Miller, KsAWWA Chair



This week I bundled up in heavy winter wear to trudge out and inspect my newly emerging grape hyacinths and baby grass sprouts. They were trying their best to push through the bits of snowfall and rain slurry that had quickly replaced their

80-degree environment just days earlier. I felt conflicted that later in the day I would be watching my teens' first baseball and softball games of the season in my snow pants and pack boots, all while wondering if my sunburn from two weeks ago would be gone by the time spring decides to stay.

Like most of you, I adore spring. While I complain about switching between shorts and a parka daily, spring happily means gardening, baseball, softball, flowers, and fishing. But perhaps more important descriptions include warmth, beauty, growth, life, and hope. I always feel that spring not only breathes new life and hope into our surrounding environment but into the utility world as well. March is one of the months for the largest number of operators to achieve new and higher certification levels. March is that deadline for study, the timetable to anguish over, and finally, the finale and celebration of their hard-earned success.

In the early spring months, I find myself constantly bombarded with requests for study guides, slides, and

materials for operators cramming and studying as much as they can in the time they have left. While many of the hard-copy materials that I share are still highly relevant, [AWWA's Opcert Exam Prep App](#) is one of the best and most user-friendly test-readying tools that I have found to share. With access to over thousands of questions broken down by industry category and certification level, this app is genius for preparing water AND wastewater operators alike. It's mobile, it is with them, and they can study anytime. The downfall? Well, it's not free, and it doesn't last forever. It's important to read the details of the subscription so you or your operators have access when they need it most. Also, there are a limited number of logins for each app purchase, so make sure all operators have their own unique subscription credentials.

This app is the new favorite of the opcert study world, so please share it with your staff. And just like a new app, a new spring, or a new certification, CELEBRATE the success. Any individual reaching a new goal, either personally or professionally, is absolutely a reason to celebrate! Thank you for encouraging and supporting your operators.

Enjoy your spring—slather on extra sunscreen just in case you get to peel off that scarf later! ☂

Katie Miller, KsAWWA Chair

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Section Manager's Report

by Hank Corcoran Boyer, KsAWWA Section Manager

I believe Mother Nature pulled her April Fool's joke on us a day early. I know that it is not impossible for Kansas to have snow even as late as into April, but these late March snows always take one aback when we are beginning to get the itch to do things in the yard and garden. I do remember in 2009 Salina received 12" of the white stuff on March 31. When I awoke the morning of April 1, I couldn't even open my front door because the wind blew and it had drifted against my front door. However, by noon it was melting, and by 5 p.m. it was gone.

KsAWWA is beginning to gear up for the 13th Annual Joint Conference in Topeka, Kansas, at Hotel Topeka/Stormont Vail Events Center Aug. 30 through Sept. 1. The Program Committee has been working hard to solicit papers of interest to both sides of the industry as well as beneficial training for the operators and preparation for operator testing on Thursday afternoon of the conference.

At this time, it appears there won't be a lot of health restrictions, but as always we will be in constant contact with Shawnee County Health Department and the CDC, and we will follow those regulations as they are handed out.

Last year was our first year in the newly renovated Stormont Vail Events Center (SVEC), and while we have some kinks to work out, it is a great enlarged space that allows us to hold more activities and encourage

our attendees to visit the exhibitors who come to the conference to share their products and new ideas with all of us.

This year opening session will once again be held in SVEC along with a joint lunch on Wednesday. All competitions (Meter Madness, Environmental Minds, Hydrant Hysteria, etc.) will be held in SVEC, and the Tuesday night Meet and Greet Block Party is scheduled to be held there as well. We are asking all vendors to come up with some creative games/competitions for Tuesday evening to entice everyone to spend time in the exhibit hall, have some fun with fellow KWEA/KsAWWA members, and get to know the vendors better.

KsAWWA continues to move forward and is always looking to be on the cutting edge of training and education to their operators. As of this date, we have held one two-day Water Operator Workshop and have a second one-day workshop scheduled. Currently, these workshops are being held virtually because some municipalities/utilities have travel restrictions in place but what has happened since we have offered these workshops virtually, we are able to engage people from all parts of the state of Kansas



because they don't have the expense of travel and overnight accommodations.

The KsAWWA Board of Trustees is also reviewing the administrative guidelines and trying to bring them into line with the changes that have evolved over the years with no updates. Chair Katie Miller took on this project and continues to work through all the suggestions, etc. It is a large project, but she is striving to have it completed by the time of the joint conference.

KsAWWA has also purchased a project management software called Basecamp. This will be rolled out to

all the board members and committee chairs in the next couple of weeks. This will help everyone keep their targeted projects in front of them and hopefully to complete projects in a timely manner. The Program Committee has been using this for a couple of years, and it works well since everyone has a busy work schedule and personal life that sometimes the volunteer projects get passed over.

In closing, I am looking forward to seeing everyone in Topeka at the end of August. May everyone have a blessed Easter and a safe, fun summer! 🍂



The Kansas Section appreciates your support of Water for People. We will once again be hosting sporting clays, golf, and a silent auction at our annual conference in Topeka, August 30 – September 1, 2022.

We ask that you consider supporting this very worthy cause by attending the events and providing silent auction items.

Please reach out to either Hank Boyer at HBoyer@Cox.net or Andrew Hansen at HansenAJ@BV.com to commit your silent auction items.

The Section will be providing additional advertising to recognize the support from your organization.



Director's Report

by Lester Estelle, KsAWWA Director



Thank you to those utilities who provided a AWWA holiday video message. AWWA remains financially healthy and carefully manages its budget by maintaining its reserves and gradually increasing revenue and expenditures.

AWWA continues to launch new initiatives to add even more value to membership, strengthens recruitment of new members, and encourages current members to renew their memberships. AWWA shared the membership challenge and dashboard information to the sections.

AWWA Elections

The Jan. 13-14, 2022 Board and Executive Committee Conference transitioned to a virtual conference due to the high numbers and travel concerns. The conference provided a diversity moment, D.C. update on infrastructure, cybersecurity talks, lead and copper information, marketing update, treasurer's report, presentation of the New England Section Affiliation agreement complaint, and the Water 2050 update.

The candidates for president-elect and vice-president attended the board special session and the board

of directors meeting. John Donahue, chair of the Nominating Committee, explained the process and introduced each of the candidates. He then conducted a Q&A session with the president-elect candidates. During the board of directors meeting, each candidate was allowed a five-minute speech on a topic of their choice. Once the speeches for each role was completed, votes were cast using the e-Ballot software, and Chi Ho Sham then announce the following winners for each position.

- » **President-Elect:** Patrick Kerr, Southwest Section
- » **Director-at-Large:** Mary Gugliuzza, Texas Section
- » **Vice-Presidents:**
 - Ari Copeland, Director-at-Large
 - Randy Moore, Missouri Section Director
 - Juanita Reyher-Colon, Hawaii Section Director
 - Michelle Stockness, Director-at-Large

AWWA Fly-in

This year will mark the first time in three years water professionals from around the country will be able to gather in-person to deliver the important message to national policymakers about the critical value and importance of ensuring all communities have safe, sustainable, reliable, and affordable water. While we have had many recent water sector advocacy

successes, most notably enactment last year of the Bipartisan Infrastructure Law with historic investments in water, there is still much work to be done.

On Wednesday, April 27, water sector representatives plan to meet with key senior EPA and other government officials and members of Congress and discuss major federal legislative and regulatory water policies and initiatives, including implementation of the Bipartisan Infrastructure Law.

AWWA ACE Conference

ACE22 provides an opportunity to connect with global water experts in every segment of the water sector. Whether at the Water Industry Luncheon or pre-conference workshops providing hands-on learning experiences, AWWA cannot wait to welcome back the water sector to San Antonio in June for a highly anticipated ACE22, showcasing smart technologies and new programs that address critical issues to protect the world's most important resource!

After two years, AWWA is thrilled to be returning to an in-person format where water sector professionals can come together and learn, connect, and be inspired to solve today's global water challenges. And for those who are not able to be physically present, the event will include a hybrid feature where you can stream content from our most essential tracks.

ACE22 will feature:

- » 16 tracks (more than 80 sessions) with 26 sessions streamed virtually.
- » Fan-favorite competitions like pipe tapping.

- » Networking opportunities.
- » The Innovation Hub.
- » The exhibit hall featuring current solutions.

Ongoing AWWA Efforts

STRATEGIC PLAN

- » **Vision:** A better world through better water.
- » **Mission:** Providing solutions to effectively manage water, the world's most vital resource.
- » **Core Principles:** Protect health, safeguard the environment, strengthen public trust, advance diversity and inclusion, share best practices, inspire innovation, advance access to safe water globally.

STRATEGIC GOALS

- » Member engagement and development.
- » Organizational stewardship.
- » Knowledge creation and exchange.
- » Water policy and leadership.

AWWA's Board of Directors adopted a new five-year strategic plan in 2020 (the [2025 Strategic Plan](#)) which elevates the global importance of safe water and highlights the water sector's need to strengthen public trust and to advance diversity and inclusion.

Each year, AWWA adopts a plan (and budget) detailing specific actions to be taken during the year to implement the strategic plan and the metrics to be evaluate progress.

The overarching themes for this year's plan are:

1. **AWWA is committed to both the protection of public health and rigorous scientific process.** Accordingly, AWWA is heavily supporting utilities in their efforts to comply with the Lead and Copper Rule; advocating for PFAS to be addressed through improved source water protection, investment in research, and regulatory decisions informed by sound science; and partnering with the USDA to protect source water and safeguard the environment.
2. **Water professionals must work to strengthen public trust in water quality and services.** Hence, AWWA is devoting special attention to water affordability, public perceptions of tap water (and ways to improve them), public communications, and community stewardship.
3. **Water professionals and services are always essential, and especially during emergencies.** AWWA is providing new and better resources to utilities (including small systems) for workforce training and development; for guidance on best practices for [cybersecurity](#); and for assessing risks and developing risk management and emergency response strategies that meet or exceed the requirements of the American Water Infrastructure Act.
4. **AWWA inspires innovation and knowledge-sharing that advances access to safe water globally.** AWWA is growing its online resources (for example, AWWA recently launched envoi, an online platform making AWWA's standards and manuals more readily available to utilities and service providers); is increasingly engaging organizations outside North America; and, as part of its Innovation Initiative, published a new manual ([Guidance for Developing a Water](#)

[Utility Innovation Program](#)) outlining a step-by-step process for utilities of any size to build a structured, customized innovation program.

5. **AWWA is a culture of diversity and inclusion that is reflected in its leadership and member/staff experiences.** AWWA is doing this in various ways: through initiatives focusing on workforce diversity and inclusion, social equity, and ways to improve perception of tap water quality in areas serving minority and low-income customers; and by providing information and customizable campaign materials to utilities, service providers, and sections to recognize outstanding contributions to water by people differing in background, gender, race and sexual orientation (a downloadable toolkit and more info can be obtained [here](#)).

Former AWWA Vice-President Jacqueline Torbert and other volunteers and staff are creating a special work group to foster student chapters in historically Black colleges and universities (HBCUs). Very recently, AWWA announced a new collaboration that will involve a volunteer network of the [National Society of Black Engineers](#) in Community Engineering Corps project.

Closing Comments

Please do not hesitate to share with me your thoughts, comments, suggestions, questions, and concerns or to contact me for additional information regarding any matter relevant to AWWA or KsAWWA. We look forward to seeing you later this year at the annual conference! 🍂



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Five New Year's Resolutions for Water Industry Professionals



by David B. LaFrance, Chief Executive Officer AWWA

This column is reprinted from Journal AWWA with permission. To view the original article, visit <https://doi.org/10.1002/awwa.1855>.

Welcome to 2022! It's time to make the proverbial New Year's resolutions. So, let's think big—bigger than just losing 10 pounds (and I don't mean upping it to 15 pounds). Why not stretch? To me, this is water's moment and now is the time to be bold. Big moves often find their roots in the past, so, before getting to my proposed 2022 resolutions for the water sector, let's get into the way-back machine and visit the era of bell bottom jeans, VW buses, and rivers on fire.

Fifty years ago—1972—the federal government took an unprecedented step forward for America's water. That was the year the Clean Water Act was passed. This was possible because two years prior, in 1970, President Richard Nixon created the US Environmental Protection Agency (USEPA) by executive order.

During his 1970 State of the Union address, President Nixon placed the importance of his decision to create the USEPA for the purpose of protecting the environment as “. . . a subject which, next to our desire for peace, may well become the major concern of the American people in the decade of the seventies.” President Nixon's statement about our desire for peace and protecting the environment still rings true 50 years later, of course. It is worth noting that this decision also reflected the long-pent-up desire of the people for a clean sustainable

environment—not one where rivers caught on fire.

In a bit of Hollywood-type drama and what for some might seem like a contradiction, President Nixon vetoed the bill in October 1972 to create the Clean Water Act and prevent pollution discharges into America's water. The president, however, was countered by votes in both the Senate and House to override his veto and make the Clean Water Act a law.

With the passing of the Clean Water Act came the sizable price tag of \$24.7 billion, most of which was in the form of grants to states for the construction of wastewater treatment plants.

In October 2021 things again changed positively for water's future when the US Congress and President Biden made water infrastructure a priority by enacting the Infrastructure Investment and Jobs Act. With the \$55 billion for water infrastructure and programs included in this act, the federal government is helping states and local water providers to spur on critical water projects.

Now is certainly another great moment for water, and in many ways it, too, is a long-awaited response to the two decades AWWA and its members have spent working to draw attention to the concern of water's aging infrastructure. This was first formally signaled in AWWA's 2001 [Dawn of the Replacement Era](#) report and then, a decade later, more formally quantified in AWWA's 2012 [Buried No Longer](#) report.

Now, for water professionals throughout the United States, comes the time to put these federal dollars where our mouths are and implement the programs presented in the bill. Although there are many questions yet unanswered, this is a challenge we want. Together, let's make some 2022 New Year's resolutions.

- » **Resolution 1:** Because much of the federal infrastructure investment will be distributed through state revolving loan fund (SRF) officials, let's resolve to connect or reconnect with them to understand their process and let them know we are interested in applying for funds once the application process begins.
- » **Resolution 2:** Resolve to ask your state officials what you can do now to prepare for when the funds are available and then act on their suggestions.
- » **Resolution 3:** Let's resolve to take full advantage of this opportunity to use every penny of the \$15 billion committed for lead service line replacement. This concern has lingered far too long.
- » **Resolution 4:** Resolve to watch for announcements on implementation of the Infrastructure Act in AWWA advisories, e-newsletters, publications, and the website (AWWA will resolve to have information there for you). This resolution is important for multiple reasons, including the fact that not all of these new or additional funds are coming via SRFs.
- » **Resolution 5:** Because the new Buy America requirements now extend to manufactured products and construction materials, we all will need to learn more, so (again) resolve to look for announcements from AWWA on how to learn about this requirement as it rolls out.

Collectively, these resolutions are all achievable and, in this moment for water, we can make positive, meaningful steps on each. A good friend of mine likes to say, in solving problems three things are needed: talent, money, and time, and usually you have only two of these. In this case, we have all three, as long as we act without undue delay.

Achieving these goals may not be the same magnitude as achieving world peace, but they definitely are part of the legacy we can leave for people 50 years from now. Certainly, it is a more meaningful gift to the future than losing 10 pounds. 🍷

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NEW TANKS – Rick DiZinno
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EXISTING TANKS – Patrick Heltsley
(270) 826-9000 ext. 4601

continued from page 1

The BIL is a 1,039-page law covering transportation, energy, water, and broadband with the bulk of the legislative language updating existing laws and reauthorizing existing programs. But the BIL also includes actual annual appropriations to State Revolving Fund (SRF) programs over the next five years. This means SRF programs should have a solid foundation for multiple year planning that is not dependent on regular annual federal appropriations and which are typically delayed with continuing resolutions. As you can imagine, a 1,039-page law can get very complex and implementation logistics are still being worked out. However, details about the bulk of the BIL funds for water utilities, which are being provided through SRF programs, are starting to take shape.

The SRF programs in Kansas are managed by the Kansas Department of Health and Environment (KDHE) and provided through the Kansas Public Water Supply Loan Fund and the Kansas Water Pollution Control Revolving Fund. The Kansas SRF program has helped to finance drinking water infrastructure since 1997 by providing a stable source of below market interest rate financing for Kansas municipalities.

Since the BIL was signed into law, there have been plenty of opportunities to get confused about what these funds are for and how to access them. As the details of the BIL are taking shape, utilities can obtain a better understanding of the requirements for obtaining the funds.

Here is what we know. There are three categories of funding for the drinking water SRF program: a General SRF Supplemental pot, which can fund any

eligible SRF project; an Emerging Contaminants pot, which can only be used for projects to address unregulated contaminants; and a Lead Service Line Replacement pot, which can only be used to replace lead service lines. Each of these pots have significantly different funding amounts and rules about who can receive the funds. When it comes to SRF loan forgiveness (“free money”), there is a restriction in the BIL that limits eligibility to municipalities that meet affordability criteria and are designated as a disadvantaged community. Let’s look at each pot of funds.

General Supplemental (Any eligible project)

Kansas should receive about \$128 million of funding over the next five years, and \$62 million of that will have to be provided as loan forgiveness (49%). The first year (federal fiscal year 2022) the amount received is \$20.8 million with \$10.2 million to be provided as loan forgiveness. The affordability criteria and disadvantaged community determination has already been established for 2022 and is simply set as public water supply systems serving a population of 150 or less. However, for the 2023 program year, which starts July 1, 2022, this criterion will be expanded to include other affordability measures. Those new expanded measures had not been established when this article was written but should be set in May or June prior to the required public hearing for the KDHE Intended Use Plan. Funding from BIL gradually increases in future years to \$28.5 million in 2025 and 2026. While the increased BIL funding provided in this category is 160% more federal funds than the SRF received in 2021, the additional funds only represent 14% of

the funds the drinking water SRF program put into new loan agreements in 2021. While federal funding is significantly increased, it is less significant when compared to other sources of funds that the drinking water SRF program uses to fund loan agreements. The increase in the amount of loan forgiveness provided by BIL is very significant in that it is a 400% increase compared to the amounts received in federal appropriations in 2021. Because of this increase in the amount of money that must be forgiven and the restrictions of what utilities that forgiveness can be provided to, KDHE will need to expand its eligibility criteria to designate more disadvantaged communities.

Emerging Contaminants

Kansas should receive about \$8.7 million in 2022 (and annually for the next four years) for SRF projects that address emerging contaminants. The BIL focuses on projects addressing PFAS compounds but projects addressing any contaminant found in EPA's Contaminant Candidate Lists can be eligible. The Contaminant Candidate lists are for contaminants that are not regulated but may be considered for future regulation. Loan agreements for emerging contaminant issues are 100% forgiven until funds are exhausted. Twenty-five percent of the funds must be provided to disadvantaged communities or to systems that serve 25,000 population or less. The criteria for disadvantaged communities had not been established when this article was written but should be established before the required public hearing for the Intended Use Plan. This pot of funds is unique because it goes towards projects that utilities would otherwise not be required to address from a regulatory basis.

Lead Service Line Replacements

Kansas should receive about \$32.8 million in 2022 (and annually for the next four years) for SRF projects that replace lead service lines. Forty-nine percent of those funds (\$16 million a year) must be provided as loan forgiveness to disadvantaged communities. The bulk of the funds provided to the SRF by BIL is for lead service line replacements. Unfortunately, no utility has used the SRF program to fund this type of project to date. There are many details that need to be worked out for this pot of funds. Like the other pots of funds, the criteria for determining disadvantaged communities has not been established at the time this article was written. Since these funds are restricted to lead service lines, it is anticipated that disadvantaged community criteria will be set in geographic locations, so only those locations that meet the criteria will be part of the SRF funded project. It is likely that any privately-owned lead service lines associated with utility owned lead service lines will need to be replaced also. The utility can use the SRF to pay for the private side cost of replacement, but the facilitation of those replacements and the associated costs will need to be worked out with KDHE.

Once more details are worked out related to SRF BIL funding, information will be updated on [KDHE's website](#). If you have a project you would like KDHE to consider for funding, please complete a [pre-application form](#). Until then, feel free to send questions to kdhe.KansasSRF@ks.gov. 📧

Kansas Mutual Aid Program Emergency Material Request Rescues City of Wellington

by Brad Mears, Kansas Municipal Utilities

Last Thursday, the City of Wellington contacted the [Kansas Mutual Aid Program for Utilities \(KSMAP\)](#) through Kansas Municipal Utilities (KMU) regarding a water main that was hit by a contractor. The city needed 14" C-900 water pipe to make the repair. KMU staff send out a system-wide request on behalf of Wellington. Within 20 minutes, the city had received word that the City of Wellington had that pipe in stock less than 30 minutes away.

Wellington Assistant City Manager Jason Newberry wrote about the experience with the mutual aid program.

"After running into supply issues on some 14" pipe needed to make some repairs and being told lead times as long as eight months, I placed a call to Kansas Municipal Utilities (KMU) and asked if they could send out an emergency request to member cities in hope of finding the pipe needed to make the repair. Within 20 minutes I received my first response (thanks Mike), and then they just kept coming. It was amazing to see that kind of response and to know that at least here in the Midwest we still have each other's back.

Ultimately, we ended up picking up a piece of pipe from Winfield, but the response from the KMU family was overwhelming. All I can really say is thank you to all and we are ready to return the favor should the need arise. We are so strong together. Keep up the good work Brad and staff, you help us all to be better utilities."



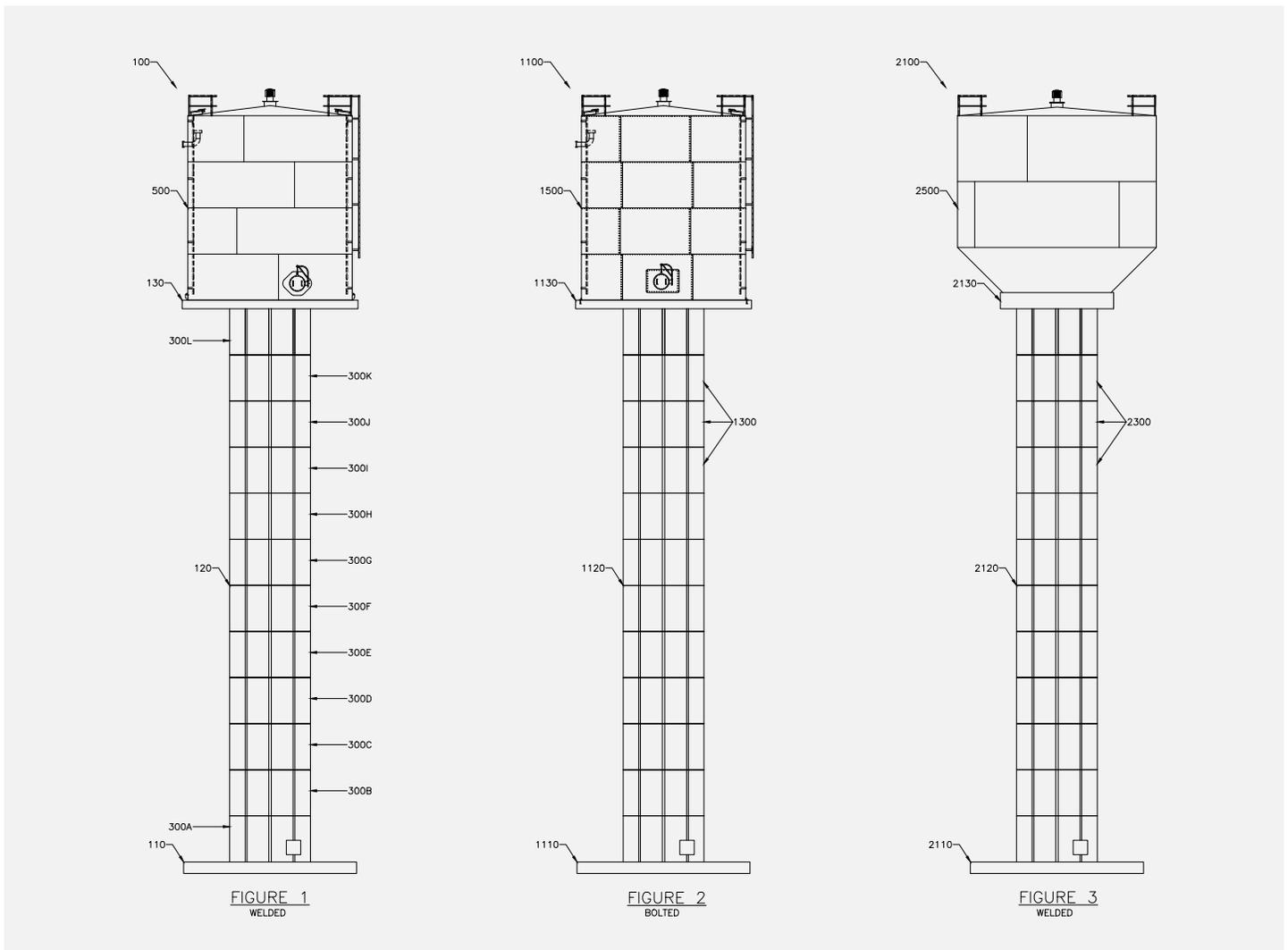
The KSMAP program has nearly 190 cities and utilities that are standing by to provide assistance in times of disaster or emergency with crews, equipment and materials. If your utility finds itself in a situation that outstrips its ability to respond, contact the mutual aid program through KMU at (620) 241-1423. ↗

Patent Pending for Mini-Composite Elevated Tank Process

by Chuck Stinnett, freelance journalist

HENDERSON, KENTUCKY—Water distribution systems needing a modest-sized elevated tank will often select a traditional steel multi-column or perhaps a single-pedestal tank. But for an owner desiring a more maintenance-free, lower life-cycle-cost option that also offers speed of construction, a new option has arrived on the market.

Pittsburg Tank & Tower Group (PTTG) has pioneered a composite elevated water tower for tank capacities ranging from 50,000 to 250,000 gallons, with plans for larger sizes. The support shaft for the tower employs stackable pre-cast concrete segments.





Over the previous 40 years, CETs had become popular for large tanks of 250,000 to 3 million gallons or so. But they weren't cost-effective for smaller tanks.

Concrete for each circular segment can be poured at ground level — either on-site or off-site, depending on location and size of structure — which greatly reduces the amount of construction work at elevated heights to enhance safety and quality. The pre-cast segments are then raised by crane and locked into place, resulting in less build time.

The concrete support shafts range from 8'-0" to 16'-0" outside diameter and typically are 8'-0" in height, and comply with AWWA D100, D103 and D107 standards, as applicable.

A patent is pending for this product, which PTTG President Ben Johnston and his engineering staff developed for making composite elevated tanks (CET) practical and cost-effective for smaller applications.

These Precast CETs offers several advantages, including:

- » Safety is enhanced by fewer man-hours worked at elevated heights.
- » Quality is improved by constructing at ground level.
- » Greater security against vandalism and less exposure to attractive-nuisance liabilities.
- » Use of local concrete.
- » Readily available to be raised, lowered or even relocated.
- » Lower carbon footprint than an all-steel structure.

To further reduce future maintenance, these precast CETs offer several options for tanks that don't require initial or future painting, including glass-fused-to-steel Aquastore-brand tanks as well as welded stainless, bolted stainless, or bolted galvanized steel tanks. ↩

Attracting Talent Takes Teamwork

by Jerry Koukol, WaterOne

It takes a lot of talented people to make great water, and water providers are working proactively to inspire the next generation's workforce.

At WaterOne, a new marketing campaign is working to raise awareness of the organization as an employer of choice through outreach to high schools and community colleges in and around our area. The campaign is intended to expose students to potential fields in the water industry, as well putting WaterOne on their radar as a place to build their career.

"Water industry jobs are fun, rewarding, and vital to our community," said WaterOne Human Resources Manager Jerri Howe. "It's important to get our name out to younger people and students who are either early in their careers or still have yet to decide what career path they want to go into. People often think first about pipes or hardhats when they think of a water company, so highlighting our full scope of positions across the organization is important. WaterOne provides a great, stable work environment for employees in a wide range of careers."

The campaign is centered around a branded "Blue Box" package of WaterOne materials delivered to career counselors. The box includes hand-out cards for different career categories at WaterOne, which highlight the variety of jobs and benefits available to employees. Each card has a QR code linking to a video feature for each career. Posters are also included



for counselors to display to generate interest with WaterOne as a future employer.

"Obviously, we want to attract talent to WaterOne," said Mandy Cawby, director of customer relations, including communication services. "But ultimately if a student who sees this campaign ends up at another water utility in Kansas or elsewhere, the industry overall is better for it."

The Blue Box campaign was sent to over 100 school counselors and program coordinators in cities served by WaterOne as well as surrounding areas.

The idea and all materials were developed mostly in-house through a collaboration of communication and human resources teams with partial support services from a contract graphic designer. Project members remarked on the teamwork and creativity experienced in the collaboration.

“Communicators are problem-solvers,” said Kelly Fry, communication specialist. “If you have communication resources at your utility or city, approach them with a problem to solve. Trust them as communication strategists to collaborate with you to find a workable solution.” 🍷

See WaterOne’s “Careers” video features at <https://waterone.org/careers>. Looking for more recruiting resources? The US Water Alliance has developed a toolkit for attracting a diverse workforce. Check it out at <https://thevalueofwater.org>.

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ROOPA MATOLE

Water & Wastewater Engineer, HDR
KsAWWA Diversity & Member Inclusion Chair

What do you love about your job?

- “ The satisfaction of knowing that I play a role in assisting a community in providing safe water to its citizens. It could be safe drinking water or discharging treated wastewater into a receiving stream.

KsAWWA Diversity & Member Inclusion Committee

What drew you to the wastewater industry?

- “ I grew up in a small town in India where getting decent quality drinking water was a daily challenge. The need to learn more about what goes on to deliver safe water and the desire to make a difference brought me to the water/wastewater industry.

What would you change about the industry if you could?

- “ I would like to see more women in the industry.

How do you manage your work-life balance?

- “ Two things, in my opinion, are essential in balancing your personal and professional lives. Supportive family and understanding coworkers/manager. I consider myself fortunate to have both. When I have long work days, I have a very supportive and loving husband who takes care of the house and kids, and my office provides a flexible schedule when I need to take care of home life.

What are the goals of the Diversity & Member Inclusion committee?

- “ KS-AWWA Diversity and Member Inclusion Committee (DMIC) promotes volunteerism and seeks to provide opportunities that encourage the diversity of membership and leadership, creating a more inclusive organization. This can be achieved by educating the industry on why diversity and inclusion is important. Our goal is to establish quarterly virtual webinars on specific Diversity, Inclusion, and Equity topics and establish an annual Diversity and Inclusion award to recognize individual members and member organizations with strong Diversity Programs or work environments.

What can we expect to see from the committee at the joint conference this year?

- “ This year we are working on providing a workshop that will explore the intersections of bias and stereotypes.

How can people get involved in the committee?

- “ Just give me a call (816-347-1138)! Let me know if you want to attend the quarterly meeting to plan future events.

American Water Works Association
KansasSection



Facing up to Stress: How to Recognize Symptoms and Reduce Negative Effects

by Dan Riney, KsAWWA Safety Committee Chair

How much do you know about stress? Surveys and research reveal that:

- » An estimated 75-90% of all visits to primary care physicians are for stress-related complaints or disorders.
- » More than 40% of all adults suffer from stress-related adverse health effects.

Stress has been linked to all the leading causes of premature mortality, including heart disease, cancer, respiratory ailments, accidents, cirrhosis, and suicide.

Stress is a normal part of life. Many events, some happy and joyous—a new job, relocation, marriage, or the birth of a child—can be stressful. Stress is more typically associated with somber events, such as divorce or a death in the family. Even holidays or making a large purchase such as a home or car can cause stress.

Everyone responds differently to stress-induced events in their lives. What one person ignores or finds challenging may cause stress in another. So, do you suffer from stress?

Symptoms of Stress

Some of the more common signs and symptoms are:

- » Constant fatigue.
- » Muscle tightness or tension.

- » Anxiety.
- » Indigestion.
- » Nervousness or trembling.
- » Insomnia.
- » Loss or increase in appetite.
- » Grinding of teeth or jaws.
- » General complaints such as weakness, dizziness, headache, stomachache, or back pain.

Many of these symptoms may be caused by other health problems, such as the flu, but if you have one or more of these symptoms that last longer than a week, talk with your physician. You may be suffering from stress.

Reducing Stress

So, you're under stress. How can you learn to reduce stress or control its negative consequences? Here are a few simple tips that can help reduce or control stress.

- » Identify the causes of stress in your life.
- » Share your thoughts and feelings with someone else.
- » Avoid sad thoughts: try not to get depressed.
- » Simplify your life as much as possible.

- » Learn to manage your time effectively.
- » Understand that drugs and alcohol cannot solve life's problems.
- » Exercise regularly.
- » Practice relaxation techniques, such as deep breathing.
- » Develop your sense of humor and make time for fun.
- » If necessary, seek professional help.

counselor or a licensed therapist. In addition, many companies provide access to an employee assistance program (EAP), which can provide a wealth of confidential professional counseling resources to help you, your family, or your fellow employees through difficult or stressful periods of life.

Finally, remember it's your life. Successfully managing stress leads to a healthier, happier, and more productive life! 🍀

Many sources of help are out there. Often, just talking to a friend can help, but if that doesn't work, talk to your minister, priest, rabbi, or other spiritual



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Success in Salina: South Well Field and Water Treatment Plant

by Marial Schroeder, Burns & McDonnell, and Mark Peterson, City of Salina

The City of Salina recently completed design, construction, and commissioning of their South Well Field and Water Treatment Plant (WTP). This facility supplements the main water treatment plant located in the downtown area. The existing wells located in the South Well Field were identified as a viable supply source to meet city demand in the event drought conditions limit the source water for the city's downtown WTP.

Burns & McDonnell and CAS Constructors teamed together to deliver a progressive design-build solution alongside the City of Salina and the owner's representative, HDR. The project included the design, construction, and commissioning of a conventional lime softening water treatment plant and rehabilitation of four raw water wells. The design average flow for the WTP is 2.24 MGD based on the annual average yield of the South Well Field water rights with a design maximum production flow of 3.50 MGD.

The wells were rehabilitated to current standards and three wells in the floodplain modified to provide flooding protection. The team designed a new splitter structure with coagulant dosing to receive flow from the South Well Field. Water is directed into two lime softening basins where hydrated lime and soda ash are dosed. After re-carbonation, water is filtered through four dual-media gravity filters. The filter building also houses a water quality lab, break room, and storage space for the city. Transfer pumping via

vertical turbine pumps is required downstream of the filters to transfer water into the 1.0 MG finished water clearwell. Primary disinfection is achieved with free chlorine, injected as sodium hypochlorite upstream of the clearwell. The high service pump station houses four split-case centrifugal high service pumps, and two end suction backwash pumps liquid ammonium sulfate is dosed downstream of the high service pumps to achieve secondary disinfection

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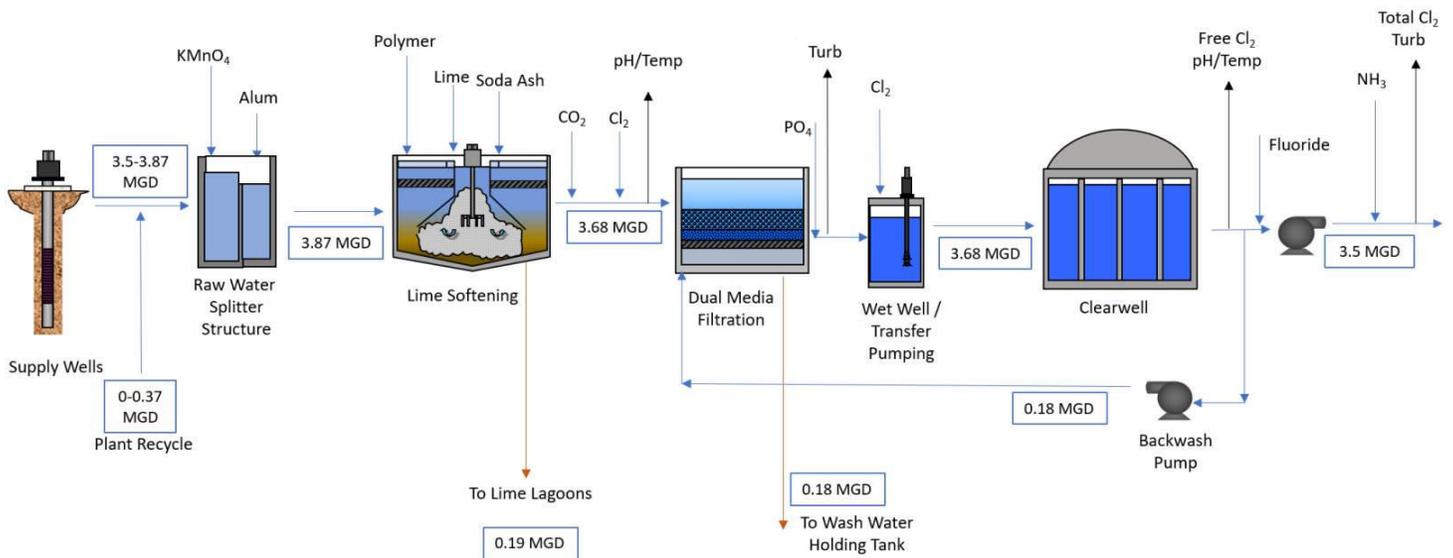


Figure 3: Process Flow Diagram

with the formation of a combined chlorine residual (chloramines). Chemicals are stored and fed from the chemical building which also provides space for parts storage and maintenance activities. Lime residuals are stored in two one-acre lagoons on-site to allow for storage and dewatering of the lime residuals prior to land application.

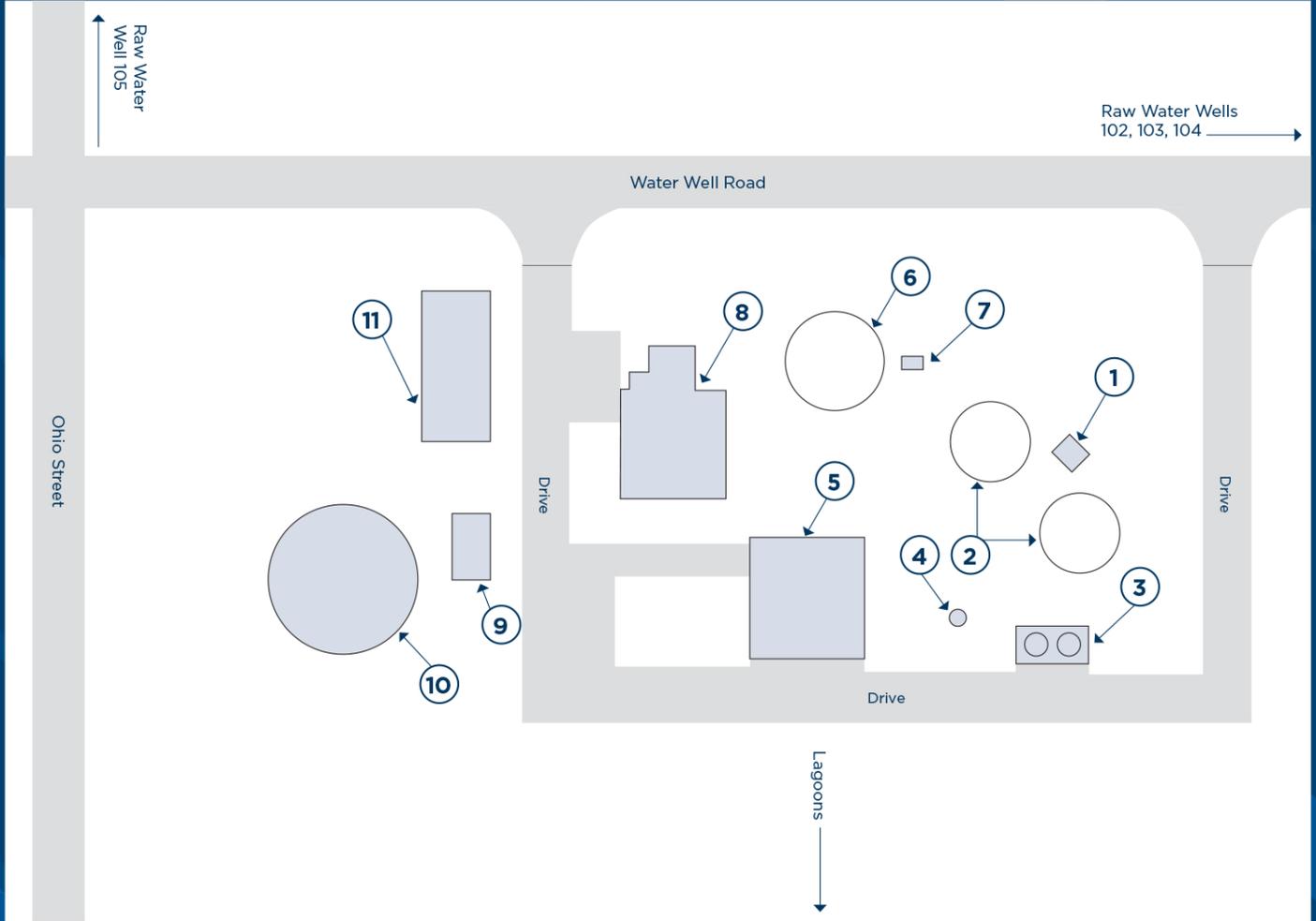
To support the new plant, raw water collection lines, sanitary sewer lines, and a finished water transmission line were also constructed.

This project provides the City of Salina with drought resistance as well as geographic diversity to their water supply infrastructure and secures their water availability for decades to come.

KsAWWA's Young Professional (YP) Committee organized a tour of the plant in October 2021. Mark Peterson, City of Salina Utilities Department, gave the tour and attendees were able to follow the path of the raw water as it entered the splitter structure, through clarification, filtration, and disinfection to the high service pumps where it left the plant to go to distribution. After the tour, the group went to Blue Skye Brewery for a happy hour sponsored by Burns & McDonnell.

To learn more about future YP activities and plant tours, please reach out to Casey Leaf, KsAWWA YP Committee Chair (cleaf@carollo.com) to make sure you are on the email list. 🍂

SOUTH SALINA WATER TREATMENT PLANT TOUR



1. Raw Water Splitter Structure: Four groundwater wells with vertical turbine submersible pumps feed 0.75 to 3.5 MGD of raw water that enters the plant here, where alum and permanganate are dosed for coagulation and iron and manganese removal, respectively. Water is then split to two solids contact clarifiers (step 2) to begin the softening process.

2. Softening Basins: Two 2.0-MGD, 40-ft diameter circular basins allow softening to occur utilizing hydrated lime and soda ash to remove hardness in the water. Polymer is also added here to facilitate the formation of solids. Precipitated solids settle to the bottom so that effluent flows through the weirs can be transferred to the filters (step 8). Solids from blowdown of these basins are sent to the lagoons via the sludge pump station (step 4). Carbon dioxide is injected to recarbonate the water after softening prior to the filters (step 8).

3. Lime and Soda Ash Silos: These two chemical silos hold 4,700 cubic feet of hydrated lime and 1,100 cubic feet of soda ash, respectively. Equipment including feeders, mixing tanks, and hose pumps is housed in the base of the silos and is used to transfer the chemicals to the softening basins (step 2).

4. Sludge Pump Station: The sludge pump station consists of a wet well and two constant speed, 5-hp, 340-gpm submersible pumps that transfer solids from the softening basins (step 2) and the wash water holding basin (step 6) to the two residuals lagoons.

5. Chemical Building: Inside you will find chemical feed systems for alum, hypo, polymer, phosphate, permanganate, carbon dioxide, fluoride, and liquid ammonium sulfate. This building also includes electrical gear that powers and controls these systems and others on site.

6. Wash Water Holding Basin: This 175,000-gal, 50-ft diameter circular basin holds the water from backwash waste and filter-to-waste. Stored water is then sent back to the raw water splitter structure via the recycle pump station (step 7). Solids that settle to the bottom of the basin are sent to the lagoons via the sludge pump station (step 4). Decant from the lagoons also flows back to the wash water holding basin to be recycled.

7. Recycle Pump Station: Two variable speed, 5-hp, 270-gpm submersible pumps are installed in the wash water holding basin (step 6) to transfer backwash waste, filter-to-waste, and lagoon decant water back to the raw water splitter structure (step 1).

8. Filter and Administration Building: This building houses four 1.2-MGD dual-media gravity filters. Hypo is injected pre-filtration to mitigate biological growth on the filters. Phosphate is injected post-filtration for corrosion inhibition. Filter effluent flows by gravity to the transfer pump station (step 9). Also inside this building, the city operations staff has a breakroom, laboratory to perform on-site testing, and control station to monitor plant performance.

9. Transfer Pump Station: The wet well of the transfer pump station holds 25,000 gallons of filtered water. Hypo is injected upstream for primary disinfection. Three variable speed, 20-hp, 1275-gpm vertical turbine pumps transfer water from the wet well into the clearwell (step 10).

10. Clearwell: The 1.0-MGD above-grade clearwell provides finished water storage and disinfection retention time for the plant. Water from the clearwell is sent to the distribution system or used for backwashing the filters, both via the high service pump station (step 11).

11. High Service Pump Station: This building houses four variable speed, 60-hp, 925-gpm horizontal split case high service pumps and two variable speed, 40-hp, 4800-gpm end suction backwash pumps. The high service pumps send finished water from the clearwell (step 10) to the distribution system. Fluoride and liquid ammonium sulfate are injected here to adhere to city requirements and to produce chloramines for distribution system residual, respectively. The backwash pumps send finished water from the clearwell (step 10) to the filters (step 8) for backwashing. This building also includes electrical gear that powers and controls the transfer, high service, and backwash pumps.





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Memorial Tribute to Ross E. McKinney, Sr.

With Ross McKinney's passing on Sept. 18, 2021, at the age of 95, the field of environmental engineering and science lost one of its most outstanding leaders. During a career spanning over 40 years, he made numerous major contributions as a teacher, researcher, consultant, and public servant. He was a giant in the field, one on whose shoulders a great many professionals stood to see more clearly while making their own contributions and passing along to their progeny not only the knowledge and research skills they gained under McKinney's tutelage but also his passion for the field and the opportunities it provides to make positive impacts on society.

McKinney graduated from high school in Dallas in 1943 and then enlisted in the Navy. While stationed at various locations in Texas, he took courses at Southern Methodist University (SMU), Texas Christian University, and Rice University.¹ After his discharge from the Navy he re-enrolled at SMU and completed a B.A. in math and a B.S. in civil engineering in 1948. Following a brief stint as a surveyor and consulting engineer, he enrolled at MIT where he earned a master's degree in 1949 and a doctoral degree in 1951, both in sanitary engineering. In 1952 he married Margaret Curtis McKinney, who had recently graduated from Wellesley College; and together they had four wonderful children.

McKinney worked at the Southwest Foundation for Research and Education in San Antonio, Texas, for two years before returning to MIT in 1953 as an assistant professor of civil and sanitary Engineering. In 1958 he was promoted to associate professor, and

from 1954-1960 he was also vice-president of Rolf Eliassen Associates, a professional engineering firm in Winchester, Massachusetts.

At MIT, McKinney led the way in revolutionizing environmental engineering

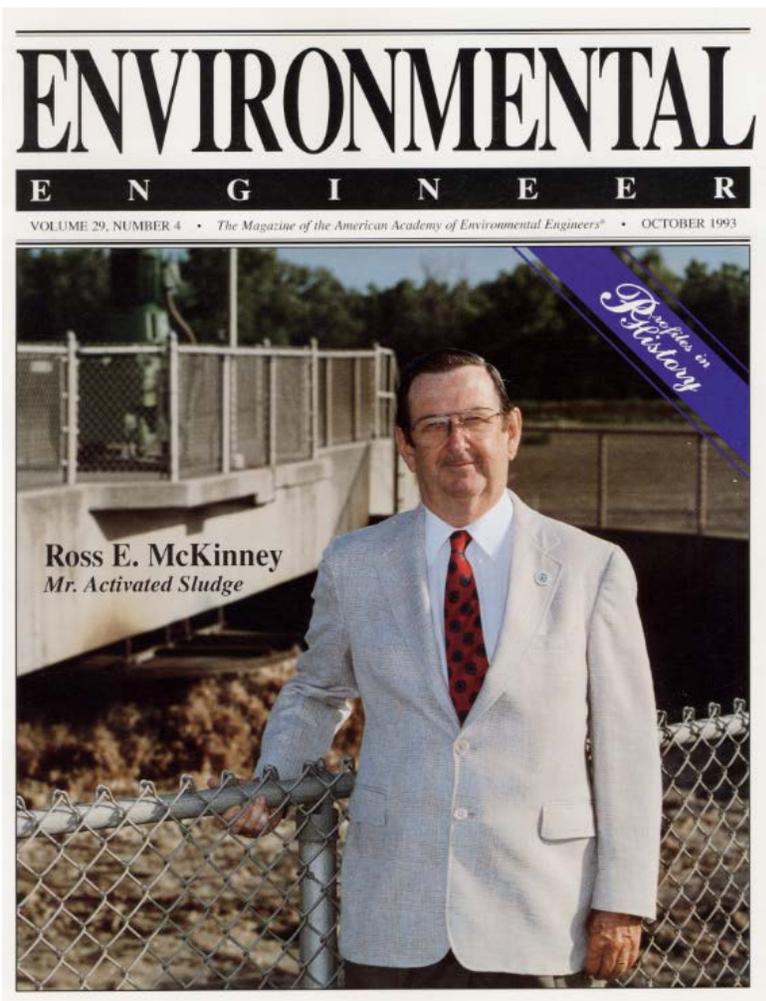
education. As recently shared by his former student Jim Symons,³ McKinney reasoned that "with the characteristics of [wastewater] changing because of ... increased manufacturing, ... biological treatment of wastewater using handbook designs from the 1940s would not be adequate. Despite his youth, he had this seminal idea [that students should] learn microbiology, chemistry, and biochemistry so biological treatment processes could be designed and operated on a sound scientific basis. Ross [convinced] full professors Rolf Eliassen and Clair Sawyer ... of the soundness of his plan, and [the] curriculum was revamped. As doctoral graduates [including Perry McCarty and Dick Engelbrecht] took positions at other schools [and implemented this concept, and as their] doctoral graduates repeated the pattern, the concept grew rather like a nuclear chain reaction. Now this is the approach used in all schools, and it all started with an idea that a young Ross McKinney had nearly 70 years ago. Quite an accomplishment."



In 1960, McKinney left MIT to head a new environmental health research laboratory at the University of Kansas (KU). At the same time, the State of Kansas decided to move its chief sanitary engineer and his entire staff from Lawrence to Topeka, leaving behind a single part-time faculty member, Howard Stoltenberg. McKinney had to develop and staff a new program almost from scratch. He convinced administrators to create a new “environmental health engineering and science” program with M.S. and Ph.D. degrees in both environmental engineering and environmental science. These programs were open to qualified students with an undergraduate degree in any field of engineering or science, respectively. The courses were open to both engineering and science students, who were encouraged to learn from one another and work collaboratively to address complex environmental problems using interdisciplinary approaches.

From 1963 to 1966, McKinney chaired what is now the Civil, Environmental, and Architectural Engineering (CEAE) Department at KU. He was named Parker Distinguished Professor in 1966 and N.T. Veatch Distinguished Professor in 1976. He held the latter position until his retirement in 1993, at which time he was granted richly deserved status as professor emeritus. In 1997 and for several years thereafter, after he and Margie moved to Raleigh, North Carolina, he served as an adjunct professor in the Civil and Environmental Engineering Department at Duke University.

McKinney’s research encompassed a multitude of environmental topics, but he is best known nationally and internationally as a pioneer of new approaches to the design and operation of biological wastewater



treatment processes. As he explained, “We start with the fundamentals of microbiology, biochemistry, and engineering, and we tie these together with a design based on the functional needs of the microorganisms that break down the waste products.” More than 75 treatment plants were designed based on his research and design recommendations, including plants in Lawrence, Kansas; Dallas and Austin, Texas; Grand Island and Lincoln, Nebraska; and Tulsa, Oklahoma.

McKinney developed design equations for the completely mixed activated sludge process, which is especially useful for treating industrial wastewaters varying in flow and composition. He consulted with

many industries regarding wastewater treatment, including pulp and paper, food processing, meat-packing, petroleum refining, and cotton, wool and synthetic textiles. One of the world's largest operating anaerobic industrial wastewater treatment plants, located in Puerto Rico, was designed based largely on his concepts; and it produced enough methane to power the entire enterprise. He noted that, "A biological system that produces methane represents a sure way to have a continuous source of energy," one that may be particularly important and useful for underdeveloped nations because it is inexpensive.

McKinney also worked on numerous pollution control projects with consulting engineering firms and federal, state, and local governments. He published over 200 technical papers, over 60 research reports and over 370 consulting reports. He was an outstanding educator for more than 40 years, supervising the theses of over 160 graduate students, and inspiring hundreds more in the classroom. "I learned a long time ago," McKinney once said, "that if you are to be successful, you have to educate the people who will do the work. You train your army to go out and win the battles. We never lose sight of our students and they never lose sight of us." Because of his reputation, he was the first environmental engineer invited to China after the Cultural Revolution to lecture on solving environmental pollution problems, and he made five lecture trips to China between 1979 and 1989.

For his contributions to environmental engineering through teaching, research, and consulting, McKinney received numerous honors and awards, including the Water Pollution Control Federation's 1962 Harrison Prescott Eddy award; ASCE's 1964 Rudolph Hering

Medal; election as an ASCE Fellow (1968); WPCF's 1982 Thomas R. Camp Medal; the KU Chancellor's Club 1986 Career Teaching Award; WPCF's 1991 Gordon Maskew Fair Medal; and the KU School of Engineering's 2016 Distinguished Engineering Service Award. He was listed in the 125th Anniversary Edition of Engineering News Record (Aug. 30, 1999) as one of the top 125 engineers in the last 125 years. In 1977 he was elected to the National Academy of Engineering (NAE), the highest professional distinction that can be conferred on an engineer. In 1981 he was elected as a fellow of the American Association for the Advancement of Science.

In 2020, the [Ross E. McKinney Professorship](#) was established at KU in his honor. His family and colleagues suggest that people wishing to honor McKinney's memory consider donating to this professorship. Gifts can be made [online](#) or by mail (Attn.: Gift Processing, KU Endowment, P.O. Box 928, Lawrence, KS 66044-9950) by designating the Ross E. McKinney Professorship as the purpose of the gift. Additional information (with photos) about McKinney and his family is available in his [obituary](#) and in a detailed profile² in the October 1993 issue of Environmental Engineer. A tribute by one of McKinney's former students, Cindy Wallis-Lage, is expected to appear on the NAE website. 🍂

¹Submitted by Steve Randtke, professor emeritus, on behalf of the CEAE Department, University of Kansas. Based in large part on an anonymous profile posted on the CEAE website in 1999 and a 1992 copy of Ross McKinney's CV.

²Anderson, W.C., "Ross E. McKinney, Ph.D., P.E., DEE, Mr. Activated Sludge," *Environmental Engineer*, Vol. 29, No. 4, October 1993.

³Jim Symons, in [Ross McKinney's Obituary, The News & Observer, Chapel Hill, North Carolina, Aug., 26, 2021.](#)



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