

April 2021

Formerly Arkansas Professional Engineer

Building Arkansas

Official Magazine of the American Council of Engineering Companies of Arkansas & the Arkansas Society of Professional Engineers

A quiet session (for engineers)

Lawmakers generated plenty of headlines while meeting in the middle of a pandemic, but unlike 2019's session, there haven't been a lot related to engineering.

Also inside: A virtual ASPE Annual Conference.



We have a date

We have a date and a place to meet *in person* for this year's Engineering Excellence Awards banquet.

The annual event that celebrates the engineering profession will be Aug. 26 at the Governor's Mansion, as usual.

We are judging the categories now and will announce winners soon. We'll wait for the banquet to name the Grand Conceptor Award and vote for the People's Choice Award.

Last year's banquet March 5 was our last major public event. At the time, we all had heard about the COVID-19 virus in China and Europe, but few of us imagined how our lives soon would be transformed. The next week, Gov. Asa Hutchinson started closing schools, and from that point forward all of our ACEC/A and ASPE events were held virtually.

We had already made reservations at the Governor's Mansion for March this



Angie W. Cooper
Executive Director

year hoping the pandemic would be over. As we all know, it isn't. We postponed. Likewise, even though the numbers have been encouraging, ASPE decided to host its Annual Conference virtually April 1-2. No fooling – it was a big success.

The COVID-19 pandemic has been easier for introverts like me than it has been for extroverts like some of you. But all of us are ready for this to be over. Life

was never meant to be lived virtually. We exist in three dimensions, not two.

The engineering profession is about assessing and managing risk and then using sound principles to solve problems. There's temporary safety in staying where you are, but life is better when someone builds a road and a bridge. That's what engineers do.

Likewise, it's time to start building a bridge to the post-pandemic new normal. For three days in mid-April, there were no new deaths added to Arkansas' total. By Aug. 26, we feel confident that things will be safe enough where we can gather in person, walk around the Great Hall and look at the project depictions, share a meal around a table, listen to brief remarks by a speaker or two, and celebrate the winners and the profession.

It is possible, of course, that we won't be able to. If not, we'll adjust.

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14 After the 2019 legislative session was dominated by engineering-related topics including the governor's highway plan, this year's General Assembly has focused on other topics, including social issues and the governor's emergency powers.

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When lawmakers met two years ago, engineering-related issues were a focus. Gov. Asa Hutchinson's highway plan, tax cuts and government transformation initiative all affected the profession. Meanwhile, engineers have played defense in recent sessions against bills that would weaken qualifications-based standards and licensure. This time? Not so much.

ASPE Annual Conference

16 **Together apart: ASPE meets online**

For the second year in a row, ASPE did not host an in-person Annual Conference, but this year's online version included a full slate of presenters covering the legislative session, progress on the 30 Crossing project, and other subjects.

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The COVID-19 pandemic will lead to changing standards of care, so firms will have to navigate a period of uncertainty and be careful to manage expectations to avoid being sued for negligence.

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The University of Arkansas College of Engineering was 5% ahead of last year's pace in admitted students and hopes to have 3,200 undergraduates this fall. It also hopes to have a full return to face to face classes.

20 **Virtual meetings raise ethical concerns**

The COVID-19 pandemic has led to new ways of meeting in groups, but it's also made it easier to get undeserved credit for unattended training. Trainers can take steps to reduce that risk, but ultimately engineers should act like the professionals they are.

22 **Spotlight / Firm ensures a firm foundation**

If a new facility's foundation isn't good, it will have cost overruns with unexpected subsurface conditions, differential settlement and cracking. If it is good, no one will notice. And that's why project managers hire Building and Earth Sciences.

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Recognizing the value of the engineering profession

Throughout our daily routine as engineers, it's sometimes easy to forget that the work we're doing is focused on improving the lives of those who are affected by our projects – directly and indirectly. The engineering profession, when boiled down to its most basic level, is about creating a safer, healthier, more efficient world.

Take, for instance, the transportation projects we work on. While on the surface a project's purpose may be to construct a new street connection for traveling convenience, the fewer miles traveled could lead to benefits such as mitigating collisions and reducing carbon emissions. This makes our community safer and healthier. Similarly, water and wastewater infrastructure investments may have been prompted by a goal to reduce future maintenance costs, but by replacing aged infrastructure we are protecting the environment, furthering the health of residents, and sustaining a community's economy by providing reliable services. And the list goes on.

Successful delivery of all the projects we work on has the power to elevate the quality of life for our communities. Our work is often what initiates economic development, further advancing our communities and collectively enabling our state to compete for business and talent across the U.S. and around the world.

The American Council of Engineering Companies (ACEC) works to recognize the projects and companies that improve



Steven Beam, P.E.
ACEC/A President

the lives of those around us – those projects that show engineering excellence and promote the practice of engineering.

This year marked a record year for project submissions for consideration for the Engineering Excellence Awards. The winners have demonstrated innovation in solving

complex problems while enhancing the social and economic fabric of Arkansas. They make us all proud to be business leaders within an industry that contributes so much good to society.

Now is a time to celebrate and remind ourselves of the value we deliver – that the work we do goes a long way toward supporting better lives and communities. While the COVID-19 pandemic has prevented us from celebrating at our traditional Engineering Excellence Awards Banquet this spring, we want you to celebrate with us on Facebook and Twitter as we promote our winners through these channels. We will plan on safely gathering Aug. 26 to announce our Grand Conceptor Award – the highest honor among the Engineering Excellence Awards – as well as choose the People's Choice Award.

While we're celebrating, know that ACEC-Arkansas is also continuing to safeguard our industry through the monitoring of legislative activity that impacts our state. If you have any questions or concerns about any activities from this session, please reach out.

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The value of membership

A question we have all heard and perhaps even asked ourselves is, "What is the value of being an NSPE/ASPE member?"

Professional development via local chapter meetings or the ASPE Annual Conference is an obvious benefit, but opportunities are so readily available elsewhere that some may not consider it worth the cost of membership. Networking with peers is another clear benefit even though it may be hampered currently by COVID-19.

Let's peel back some layers and find further value that may not be visible to all.

Our professional engineering license is our livelihood, and it carries a great deal of responsibility. In recent years, legislation at the state and national levels has sought to reduce licensure requirements for many occupations. Although engineering is not typically targeted, the legislation is usually broad-brushed, capturing all occupations. NSPE's government relations staff actively tracked 329 pieces of legislation in 2020 with 143 being licensing specific.

Other core issues tracked by NSPE included infrastructure, sustainability, STEM, emerging technology, and qualifications-based selection. NSPE also builds working relationships with elected officials by tracking NSPE staff interactions with them and tracking the NSPE-supported bills they sponsor or co-sponsor. For example, Arkansas Congressman Bruce Westerman, a professional engineer, had 33 interactions with NSPE staff and sponsored or co-sponsored three bills. I encourage everyone to visit the NSPE Advocacy Center at https://nspe.quorum.us/advocacy_center/ to learn more.

At the state Legislature level, this work is done by our executive director, Angie Cooper, and the ASPE's partnership with



Daniel George, P.E.
ASPE President

ACEC/A. Angie and the ACEC/A Government Affairs Committee work tirelessly to track Arkansas legislation and fight for the best interests of our profession.

Sharpening younger professionals' leadership skills and growth is an immeasurably valuable benefit of NSPE/ASPE

membership. My article published in the October 2020 Building Arkansas touched on these points, but I want to share some personal experiences I would not have had without my membership. It's allowed me to make connections with professionals throughout our industry at the local, state, and national levels. On a monthly basis, I interact with NSPE staff and engineers in Colorado, Louisiana, New Mexico, Oklahoma, Texas, and Wyoming. Membership has allowed me to lead an ASPE board filled with accomplished engineers.

In the fall of 2020, NSPE updated its strategic plan by identifying four key focus areas: Driving Growth; Shaping Public Policy; Educating for the Future; and Promoting Diversity and Tomorrow's Engineer.

ASPE is currently working to establish metrics and methods to implement those focus areas at a state level. As we discussed them, we recognized we've already made progress. For example, the work with the Arkansas Legislature mentioned previously is "shaping public policy," and the Emerging Leaders Program is "educating for the future." Establishing a baseline for where we are now and outlining future goals in writing will give us a map to grow.

Growth starts with increased membership, and I hope this article helps some answer the question, "What is the value of being a member in NSPE/ASPE?"

In the News

Garver acquires Oklahoma-based Cabbiness firm

Garver and Norman, Oklahoma-based Cabbiness Engineering have each created reputations as trusted firms that deliver solutions to infrastructure challenges.

Now they'll do so together as Garver announced the acquisition of Cabbiness Engineering earlier this year.

The partnership will combine the Cabbiness staff of local experts with Garver's national presence. Garver now boasts more than 800 employees operating across the country, nearly 100 of which are based in Norman, Oklahoma City, and Tulsa.

"This partnership will not only provide Garver with enhanced bench strength to better serve our clients throughout Oklahoma, but it's a perfect cultural fit, too," said Garver President and CEO Brock Hoskins, P.E. "By working together, we'll further position Garver as the go-to firm in Oklahoma."

Bret Cabbiness, P.E., who founded the firm, will serve as Central Oklahoma municipal services team leader for Garver based in Norman.

"I started this firm because I wanted to forge personal relationships with clients and make an impact on my

home state," Cabbiness said. "With Garver, those opportunities are enhanced, as well as our employees' access to the best benefits in the industry, expanded professional development opportunities, and the chance to work on the most impactful projects."



Veterans Bridge receives national recognition

The Broadway Bridge over the Arkansas River in Pulaski County, recently renamed as the Veterans Memorial Bridge, recently received the Merit Award for Major Spans from the American Institute of Steel Construction's National Steel Bridge Alliance.

"It's been a joy to see how the new Broadway Bridge has impacted Central Arkansas and all those who utilize it on a daily basis," said Garver Bridge Design Manager John Ruddell, P.E. "The final product was truly a team effort between the design team, the two cities, Pulaski County, and the Arkansas Department of Transportation, and we're proud that it will be a consistent and reliable source of travel for decades to come."



Cabbiness

In earning the award, the Broadway Bridge joins a class of more than 600 bridges that help improve connectivity across the country and have been recognized by the NSBA for being efficient, economic, and sustainable.

Matthews, veteran B & F engineer, is retiring June 30

B & F Engineering Executive Vice-President Keith Matthews, P.E., will retire June 30.

Matthews joined B & F in 1994 as a principal owner and spent 45 years as a professional engineer. His career



Matthews

has focused on civil engineering design and construction management with areas of specialization including streets and drainage, water and sewer systems, and site development.

Marque projects include the Garland County Detention Facility (a 54-acre development), Majestic Park Youth Baseball Complex, renovation of Bathhouse Row in Downtown Hot Springs, and Convention Boulevard in Hot Springs.

"A calm and patient demeanor paired with a wealth of experience and knowledge has made Keith an integral piece to B & F's growth and success," said Daniel George, P.E., a project professional engineer with B & F. "He has always been a great sounding board for his partners and always has an answer to a younger engineer's question of, 'What should I do in this scenario, Keith?'"

Matthews earned his Bachelor of Science Degree in 1974 and his Master of Science Degree in 1975, both from the University of Arkansas. During his career, he has been involved with the Arkansas Society of Professional Engineers (serving as president in 1994-1995), National Society of Professional Engineers, Arkansas Academy of Civil Engineers, American Waterworks Association, and the Rotary Club of Oaklawn.

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The company will celebrate his career in 2021 when COVID-19 guidelines permit. Retirement includes time with wife Brenda and their three children and their seven grandchildren, as well as gardening and maintaining his 10-acre estate.

Hawkins-Weir promotes three to associate position

Hawkins-Weir Engineers has promoted project managers Elizabeth Heiles, P.E., Blake Peacock, P.E., and Chris Morris, P.E., to the position of associate.

Heiles specializes in civil environmental projects in the Little Rock office, Peacock specializes in civil projects in Fayetteville, and Morris specializes in structural projects in Fort Smith.



Heiles



Peacock



Morris

HW also recently added four staff members.

– Chris Siebenmorgen, P.E., now works in the company's Fayetteville office. He graduated from the University of Arkansas at Fayetteville with a Bachelor of Science in Civil Engineering in 2015

and joined HW in September 2020. He has five years of engineering experience and is a licensed professional engineer in Arkansas and Oklahoma.



Siebenmorgen

– Jorge Vasquez, E.I., has joined the Little Rock office. He graduated from the University of Arkansas at Little Rock with a Bachelor of Science in Civil and Construction Engineering in May 2020 and joined HW in July.



Vasquez

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Our Future Looks Bright!

We are pleased to announce the promotions of Elizabeth Heiles, Blake Peacock, and Chris Morris to the position of Associate at Hawkins-Weir Engineers, Inc. As Project Managers for HW and our clients, they have each demonstrated outstanding leadership and managerial skills. Elizabeth specializes in civil environmental projects in our Little Rock office, Blake specializes in civil projects in our Fayetteville office, and Chris specializes in structural projects in our Fort Smith office. Congratulations to our new HW Associates!

Elizabeth Heiles, P.E.

Blake Peacock, P.E.

Chris Morris, P.E.

Van Buren ■ Little Rock
Fort Smith ■ Fayetteville

In the News (Cont'd)

– Patrick Comer, E.I., has joined the company's Little Rock office. He graduated from the University of Arkansas at Fayetteville in July 2020 with a Bachelor of Science in Biological Engineering and joined HW immediately following graduation.



Comer



Henson

– Will Henson, E.I., has joined the company's Van Buren office. He graduated from Arkansas Tech University in Russellville with a Bachelor of Science in Electrical Engineering in August 2017 and joined HW in August 2020.

HW's Anderson passes PE exam

Hawkins-Weir's Austin Anderson, P.E., has passed the Principles and Practice of Engineering (P.E.) exam.

Anderson is a project engineer and has assisted HW in the design and construction management of several water and wastewater projects throughout Arkansas. He joined HW's Little Rock office in 2016 following his graduation from the University of Arkansas at Little Rock with a Bachelor of Science in Civil and Construction Engineering.



Anderson

Crafton Tull adds two to its board

Crafton Tull has added David Ganoung of Harps Food Stores and Martine



Pollard of Mercy Health of Northwest Arkansas as independent members of its board of directors.

In 2019, Crafton Tull sold 100% of its stock to its employees through an employee stock ownership plan (ESOP). The process preserved local ownership and included the addition of two independent board members. The current internal leadership structure of the firm remains unchanged.

"We are so excited to have David and Martine join our board of directors, having known both of them for many years. They fit our culture of service to clients, and they are both exceptional members of our community," said Matt Crafton, president and CEO of Crafton Tull.

Ganoung is vice president of marketing at Harps Food Stores, the largest employee-owned company headquartered in Arkansas, and 20th largest in the United States.

"After knowing both the Crafton and Tull families for so many years, and knowing the quality in which the organization stands for, it will be both an honor and a pleasure to serve on their board," Ganoung said.

Pollard is executive director of community, government & public relations at Mercy Health of Northwest Arkansas.

"I've been close to the Crafton Tull team for a long time and think highly of them and the work they do. I am truly humbled and honored to have been asked and serve as a member of the Crafton Tull Board of Directors," Pollard said.

FTN's Criswell passes PE exam

FTN Associates' David Criswell passed the professional engineering exam and is now a licensed professional engineer in Arkansas.

Criswell works in FTN's Fayetteville office. He has four years of experience in water rights, groundwater hydrology, and agricultural water use and management.



Criswell

He earned his Bachelor of Science Degree in Biosystems and Agricultural Engineering from Oklahoma State University. He earned a Master's Degree in Civil and Environmental Engineering at Colorado State University.



Halff improves school access

When the City of Little Rock and the Little Rock School District (LRSD) saw the need for improved access to Southwest High School, Halff Associates was hired for the joint project.

The Halff team provided surveying, construction plans, public involvement services, and right of way plans for the widening of Mabelvale Pike from Sibley Hole Road to Helm Street and a roundabout at the intersection of Mabelvale Pike and Sibley Hole Road.

The project, completed in the fall of 2020, provides drivers, pedestrians, and cyclists a safer way to navigate to and around the school.

Design items included street, sidewalk, and bike lane design. The construction plans included drainage design, ero-

sion control plans, signing and striping plans, construction sequencing, and traffic control plans.

Wintle named a partner at Crist Engineers

Brian Wintle, P.E., PhD, CHMM, BCEE, has been named a partner at Crist Engineers.

Wintle has more than 12 years of experience in the water and wastewater field. His professional experience is in municipal and utility engineering project management, water and wastewater infrastructure design, planning, analysis, and regulatory compliance.



Wintle

He joined the firm in 2018 as a project manager.

Serving as an adjunct instructor for Oklahoma State University from 2012 to 2018, Wintle has a strong academic background in research and education in the engineering field, and his credentials include board certifications in hazardous materials management and environmental engineering. Professional areas of expertise include compliance strategies for surface water treatment facilities; evaluation and design of private, municipal and industrial water distribution systems; and evaluation and design of wastewater treatment plants and collection systems.

Founded in 1938, Crist Engineers is one of Arkansas' oldest consulting engineering firms. It offers specialized experience in water treatment and distribution, and wastewater collection and treatment. It offers various other engineering services including planning and construction management to clients throughout Arkansas and surrounding states.

The firm's other partners are Matt Dunn, P.E., president; Craig Johnson, P.E., vice president; Les Price, P.E., secretary/treasurer; and Chad Hastings, P.E.



Conway Corp's solar array open

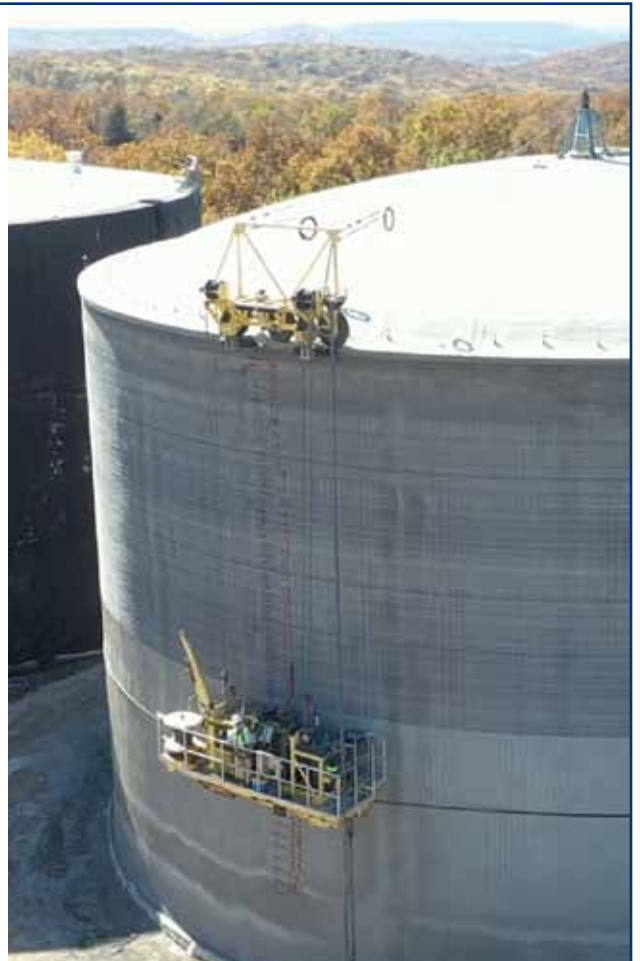
Located on the site of the City of Conway's closed landfill, Conway Corporation's 1.2 MW solar array at Blaney Hill began generating clean renewable energy in 2020. As the prime consultant, Brown Engineers worked with Conway Corp on the brownfield site.

In the News continues on page 12

DOES TANK SELECTION HAVE YOUR UTILITY WOUND UP TIGHT?

Here is a photo of a 3MG prestressed concrete wire wound tank under construction near Lincoln, AR for the Benton Washington Regional Public Water Authority.

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The design-bid-build project had unique challenges that the design team navigated to develop a high-quality solar system. To prevent damage to the landfill cap, a ballasted racking system was used, eliminating the need for pile support systems typical of most ground-mount PV systems. The solar module racking accommodated the sloped surfaces of the landfill cap, conforming to the topography of the existing site.

The facility is equipped with security and monitoring equipment to provide real-time solar production information and notifications of the health of the equipment. The solar energy system generates clean energy directly for Conway Corp's grid, producing more than the consumption of 150 homes annually and offsetting carbon and greenhouse emissions.

Brown Engineers worked with Nashville's I.C. Thomasson and Crist Engineers of Little Rock to complete this project. Contractor Koontz Electric of Morrilton received the 2020 Excellence in Construction Award for Special Construction from the Associated Builders and Contractors of Arkansas for this project.

For more information, go to <https://www.conwaycorp.com/solar>.

RP Power promotes Oakes to controller

RP Power has promoted Jennifer Oakes from senior accountant to controller.

Oakes has been with RP Power more than 21 years. During this time, she has advanced through progressively more responsible positions in the accounting department. She played a key role during the company's recent territory expansion. When she started, RP Power had one location and seven employees. It since has expanded to six locations



Oakes

throughout Arkansas, Louisiana, Mississippi and Oklahoma as well as portions of Texas and eastern Tennessee, and it has more than 65 employees.

Oakes acquired her Bachelor's Degree in Finance from the University of Arkansas at Little Rock. Prior to starting her career at RP Power, she had a background working in banking. She regularly works with local non-profit organizations assisting with their accounting needs.



MCE designing Texarkana airport expansion

The Texarkana Regional Airport Authority has hired McClelland Consulting Engineers to help it develop the southwest side of its airfield to meet facility requirements for additional commercial flights, including larger aircraft.

The \$41 million development includes a taxiway, apron, terminal building, and associated parking lots. In addition to creating ample room for expansion, the new entrance will also provide traffic separation between general aviation services and air carrier operations. This allows the airport to better comply with security requirements that are more restrictive to commercial aviation. The project is estimated to be completed in 2024.

MCE is providing full engineering, planning, and design services including surveys and geotechnical investigations for the new taxiway and apron projects. Early in the planning phases, MCE created 3D models of the planned development, allowing the Authority to see videos of the development's progress and how the projects would connect with each other and with the current airport.

Construction for the new terminal development is underway with the first phase of the parallel taxiway nearly complete and the final phase anticipated to be completed in fall 2021.

Funding is provided by the Federal Aviation Association, Arkansas Division of Aeronautics, the Texas Department of Transportation, and the Texarkana Regional Airport Authority.



MCE adds drilling capabilities with tracked D-50

MCE's Geotechnical Department has added new drilling equipment that will expand its capabilities.

A track-mounted Diedrich D-50 increases accessibility to a variety of project sites and will complement the firm's truck-mounted CME 45B rig. The D-50 is an all-purpose drill rig with up to 9,100 foot-pounds of spindle torque. It has superior drilling capability with augers, soil sampling, coring, and probing options. Being track-mounted, it is ideal for use on project sites where conditions are not favorable or accessible for other rigs.

Geotechnical Department Head Steven Head, P.E., said, "We are very excited to add the D-50 to our geotechnical operations. This has been a goal for several years, and making it a reality is a great representation of our team. The addition of the D-50 will greatly increase our in-house drilling capabilities and availability, which ultimately benefits our projects and clients."

In other news, Roger Bahena, construction materials supervisor and estimator, and Michael Scott, geotechnical project designer, recently passed the Post-Tension Institute (PTI) courses for Level 1 & 2 unbonded



Bahena



Scott

post tension installer and inspector. Both work in MCE's Fayetteville office.

The newly acquired certifications will allow the firm to offer additional services to its clients.



Bullis

from the University of Arkansas. Since joining MCE as a project designer in its Transportation Department, his primary focus has been the development and design of roadway projects while also facilitating strategy among necessary agencies and utilities.

Hanna started in the firm's Fort Smith location in April 2018 as a project designer after serving as a field engineer



Hanna

with the Arkansas Department of Transportation.

Hanna graduated from the University of Arkansas with his Bachelor's Degree in Civil Engineering. Since joining MCE, his primary focus has been designing transportation-related projects like roadways, parks, and drainage projects.

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Springdale Water Utilities

Turner Insurance

Two MCE staff members pass PE examinations

MCE's Robbie Bullis, P.E., and Andy Hanna, P.E., have passed the Principles and Practice of Engineering exam.

Bullis started at MCE as an intern in May of 2016 after graduating with his Master's Degree in Civil Engineering



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SCAN ME



This one wasn't really about us

With highways taken care of by voters in 2020 and no controversy over QBS, the 2021 legislative session has been a quiet one - for engineers

When Arkansas lawmakers met two years ago, engineering-related issues were a focus. Gov. Asa Hutchinson's highway plan, tax cuts and government transformation initiative all affected the profession. Meanwhile, engineers have played defense in recent sessions against bills that would weaken qualifications-based standards and licensure.

This time? Not so much. Highways were taken off the table after voters passed a half-cent sales tax for roads last November. QBS hasn't really been an issue this session after an interim study committee determined that the state's policies reflected best practices.

Likewise, a proposal that would require municipalities and water authorities to consider all allowable products, including PVC pipe, when procuring

materials never surfaced. Engineers have opposed previous proposals because it interferes with their ability to design systems based on their professional judgment.

Legislation affecting licensure arose, just as in recent years. Arkansas has required many professions to be licensed, some of which probably haven't had to be. Hair-braiders have been an oft-repeated example. Engineers have had to be vigilant to ensure occupations that affect public health, safety and welfare haven't been caught up in that debate.

One such example is House Bill 1667 by Rep. Tony Furman, R-Benton, which would allow a license to be granted without an examination if a professional is licensed at the same level in another state and is in good standing there. With a week left in the session, it hadn't made it out of the House Public Health, Welfare and Labor Committee.

Bills passed into law this session included Act 567 by Rep. Richard Womack, R-Arkadelphia, the Workforce Freedom

Act. It states that cities, counties and other political subdivisions cannot require licenses that duplicate a state license. Act 135 by Sen. Ricky Hill, R-Cabot, requires occupational licensing entities to accept relevant uniformed service training and credentials toward licensure qualifications when considering an initial application. Act 568 by Rep. Aaron Pilkington, R-Knoxville, raises the architectural licensing exemption from the current \$100,000 to \$250,000. Act 725 by Sen. Ben Gilmore, R-Crossett, requires licensing agencies to set up a process for waiving licensing fees for qualifying low-income individuals.

Among other licensure-related bills was House Bill 1465 by Rep. Jim Dotson, R-Bentonville, which states that licensing entities must consider "good moral character," defined as "a personal history of honesty, trustworthiness, fairness, a good reputation for fair dealings, and respect for the rights of others and for state and federal laws." The bill passed the House, 59-23, on March 9 but it hadn't made it

out of the Senate Public Health, Welfare and Labor Committee as of press time.

Democracy during a pandemic

The session has occurred in the midst of the COVID-19 global pandemic, which has made it unlike any other. House and Senate lawmakers to varying degrees have been wearing masks, and their seats in their chambers were separated by plastic shields, which legislators voted to remove late in the session. There's been much less foot traffic in the Capitol. Gone are the tourists and schoolchildren that often make an obstacle course of moving from one committee room to another. Committees have been more diligent about discussing bills only on the agenda. Because of that, lobbyists and professionals are often at the Capitol only when they need to be, while journalists and other interested individuals can watch every committee meeting online.

After a year of living under the governor's executive orders, lawmakers wanted to reassert the legislative branch's prerogatives. Among the results was a law signed by the governor that sets up processes for the Legislature to end a governor's declared state of emergency. At press time, lawmakers were considering sending to voters a constitutional amendment allowing them to call themselves into session. Currently, only the governor can do that. Lawmakers also planned to recess rather than adjourn so they can return later in the year to draw legislative boundaries after the U.S. Census Bureau provides the necessary population information.

Impact Management's Robert Coon, ACEC/A's lobbyist, said legislators' desire for independence has been growing in the past few years – particularly in the Senate. Plus, the governor is in his last term, when his powers are diminished.

Lawmakers were planning to leave town the last week of April. Among their final acts was to approve the state's budget under the Revenue Stabilization Act, a mechanism in place since 1945 that prioritizes spending and leads to a balanced budget. One of the biggest hurdles was overcome April 20, when the House approved the budget for the Arkansas Department of Human Services Division of Medical Services. It funds Medicaid and the state's Medicaid expansion program under the Affordable Care Act, or Obamacare. The battle over that program's funding occurs almost yearly before passage finally occurs.

One of the biggest disputes was the passage of a hate crimes law. Coming into the session, Arkansas was one of three states lacking one, which some in the business community said harmed the state's image. After Hutchinson's preferred bill failed in committee, lawmakers approved a "class protection" bill that says criminals will serve at least 80% of their sentence if they commit a violent crime because the victim was a member of a group sharing "mental, physical, biological, cultural, political or religious beliefs or characteristics." The bill was introduced by Senate President Pro Tempore Jimmy Hickey, R-Texarkana, and Speaker of the House Matthew Shepherd, R-El Dorado, the session's two most powerful legislators who were trying to create a compromise solution.

Ultimately, Hutchinson got a hate crimes bill he could sign and then show to business leaders inside and outside the state.

His other successes included a law requiring students to complete a computer science course in order to graduate high school.

Many of the headlines of this year's session have been centered around social issues. Legislators passed a bill signed by the governor that outlaws all abortions except those performed to save the mother's life. The law's purpose is to set up a court challenge that would give the U.S. Supreme Court an opportunity to strike down *Roe v. Wade*, the 1973 decision that legalized abortion nationwide. Other abortion-related legislation has moved through the process. A number of bills have been related to transgender students, including one signed into law that is meant to limit girls' sports to biological females. Act 462 is meant to protect medical professionals who refuse to perform certain procedures that violate their convictions. Critics said it would lead to discrimination.

Why the focus on social issues? Coon said there's pent-up frustration in the Legislature with the federal government and with the country's general direction. Lawmakers want the state to go on the record on these issues.

"I think that there are members that are frustrated, and I think they feel like their constituents are frustrated," he said. "There's as much actual policymaking involved, I think, as there is sending a message. So sending a message has become kind of a new norm in a lot of ways with legislation."

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ASPE Annual Conference

Together apart: ASPE meets online

Speakers describe NSPE's challenges, the 30 Crossing project and other subjects

For the second year in a row, ASPE did not host an in-person Annual Conference, but this year's online version included a full slate of presenters covering the legislative session, progress on the 30 Crossing project, and other subjects.

ASPE hosted the conference online after having no conference last year. Some of the usual highlights are planned to be included in an in-person fall luncheon, perhaps in October. Those include the announcement of the Engineer of the Year and Young Engineer of the Year, the Emerging Leaders graduation ceremony, the Order of the Engineer induction, and the presidential transition ceremony.

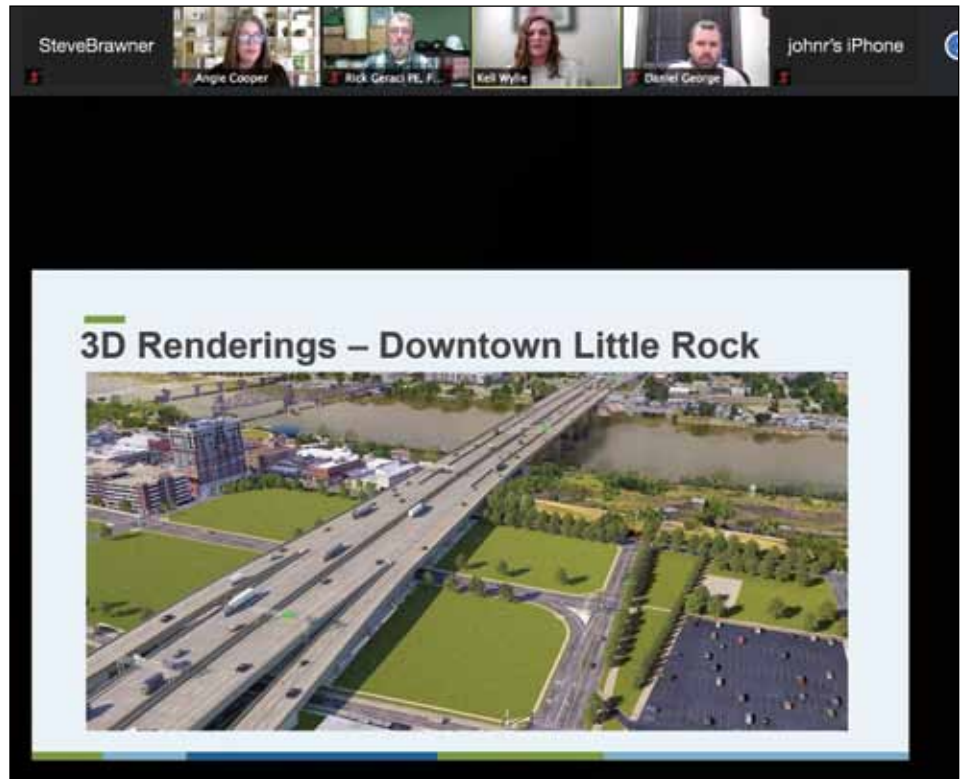
ASPE President Daniel George, P.E., of B & F Engineering encouraged attendees to promote membership to their new hires. He said as of January 2021, the NSPE has 157 standard members, 33 life members and 13 student members.

Zia Yasrobi, P.E., chair of NSPE's Southwest region, said NSPE has undergone significant personnel changes in recent months. Monika Schulz was hired as CEO, replacing Mark Golden, who left to become CEO of the American Association for Clinical Chemistry. Schulz came to the organization after serving five years as CEO of the American String Teachers Association. She was hired with help from a search firm who narrowed the long list of applicants to five.

"She was the right choice for the position," he said. "She's very knowledgeable, very enthusiastic, and very capable – an absolutely incredibly personable individual to lead our organization through the years to come."

The NSPE also lost Art Schwartz, its general counsel who retired after almost 38 years with NSPE. Rebecca Bowman, a registered professional engineer and an attorney, was hired as the senior director for ethics and professional practice.

"Nobody could replace Art Schwartz and all he had in his head, but Rebecca is doing a phenomenal job," he said.



AROUND THE CONFERENCE. Top, ARDOT's Keli Wylie presented an update on the 30 Crossing project across the Arkansas River. Middle left is ASPE President Daniel George, P.E., with B & F Engineering. Middle right is Zia Yasrobi, P.E., NSPE Southwest Region director. Bottom, a slide from a presentation by Crafton Tull's Eric Fuselier, PWS, showing how the complex root system of prairie grass can reduce runoff and purify the soil.

Financial challenges caused by the pandemic led NSPE to lay off 26 staff members, while the remaining staff took a significant pay cut. The largest revenue losses came from the loss of National Institute for Certification in Engineering Technologies exams, the NSPE's biggest revenue producer. Those certifications ended when it became impossible to meet at a testing center. After the federal government's second Paycheck Protection Program forgivable loans excluded nonprofit organizations, the NSPE was more than \$300,000 in the hole.

Things have since improved. The testing centers have been reopened, and revenues have begun returning. Meanwhile, the NSPE's investments improved thanks to the strong market, and its tenants never stopped paying rent. As the income returned, the salaries of current staff members were restored, but the Society hasn't filled the 26 positions.

Yasrobi said NSPE's strategic plan has four focus areas: driving growth, shaping public policy, educating for the future, and promoting diversity, including age, gender and race diversity. He said elected officials are taking advantage of the pandemic to introduce legislation weakening licensure requirements. NSPE has joined with other professional organizations to form the Alliance for Responsible Professional Licensing, a research organization, not a lobbying group.

Also at the conference, Keli Wylie, P.E., the Arkansas Department of Trans-

portation's alternative project delivery administrator, gave an update on the \$540 million 30 Crossing project in Little Rock and North Little Rock across the Arkansas River.

The 7.3-mile project is ARDOT's first design-build project, where the design and construction are combined under one contract. Wylie said it's the largest project in the state's history and is occurring on the corridor with the most traffic – 120,000 vehicles a day across the river. The project involves the convergence of six major highways and interstates and crosses two Union Pacific railroad yards. Wylie said construction began in September and is expected to be completed in early to mid-2025. Kiewit-Massman has been the design-build contractor. Garver has been the program manager.

Built in the 1950s, the current infrastructure is functionally and structurally deficient with little to no shoulders through most of the corridor, inadequate acceleration lanes, and a 70-year-old river bridge constructed before the creation of the McClellan-Kerr Arkansas River Navigation System. It's the only one in the navigation channel in the Little Rock metro area supported by a major pier.

The project will create four lanes in each direction on I-30 until travelers reach the river, where there will be three lanes in each direction. The corridor also will have two collector-distributor lanes on both sides separated from the interstate by a concrete barrier.

The project involved substantial public discussion and debate as some residents wanted a boulevard design that would slow traffic through the area. Wylie said seven public meetings and 200 meetings with local stakeholders were held.

"Our mantra was, if you want to talk about 30 Crossing, we'll come talk to you," she said.

Eric Fuselier, PWS, of Crafton Tull, president of the Arkansas Native Plant Society, told attendees that soil is a non-renewable resource. It takes more than 500 years to create one inch of topsoil and 3,000 years to accumulate enough nutrients to make it fertile.

Fuselier said impervious surfaces block rain from soaking into the ground, which increases runoff and "flashy flows," and sends water and petroleum drippings into the nearest storm drains. Those flashy flows also increase erosion and increase streams' turbidity.

The principles of stormwater management are "soak it up, spread it out and slow it down," Fuselier said. This can be done with rain gardens strategically located next to impervious surfaces, and also bioswales. He said many types of vegetation can help manage stormwater. Prairie grass, for example, has deep root systems that stabilize the soil and help it purify itself. Through phytoremediation, plants can remediate stormwater. The roots exude sugars that stimulate soil microbial activity that breaks down low to moderate hydrocarbons.

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ASPE Annual Conference

Firms must react as standards change

Insurer warns against making guarantees amidst COVID-19's many uncertainties

The COVID-19 pandemic will lead to changing standards of care, so firms will have to navigate a period of uncertainty and be careful to manage expectations to avoid being sued for negligence.

At the ASPE Annual Conference April 1, Nicole Mangino, an attorney and head of underwriting at commercial insurance provider AXA XL, said controlling infections will be part of what firms do in response to the pandemic. Designers will create larger spaces and ensure opportunities for handwashing. The layouts of nursing homes, hospitals, schools and hotels will be affected.

But how best to do that still isn't known. Design firms will have to rely on changing local, state, and Centers for Disease Control and Prevention guidelines regarding unproven materials and techniques.

"What I hear from most people is an uncertainty and a fear of us being sued, of being responsible, of being part of that," she said. "The uncertainties are leaving a lot of businesses and a lot of your customers and a lot of your clients grappling for answers about what they can do, but not only that, what they should be doing, and what can they afford to do."

Mangino noted that some firms are responding to the pandemic as an opportunity by providing facilities assessments, UV lighting, disinfection reviews, operations and maintenance plans, HVAC upgrades and other services.

But professionals should manage expectations. Because so much is unknown, they should be careful about warranties, guarantees and safety assurances.

Mangino said a professional liability lawsuit occurs when a party has failed to abide by a contract or is negligent.

To establish negligence, a plaintiff must show the defendant breached a standard of care that a reasonable, prudent person in the same profession would have exercised. Then the plaintiff must show the injury was directly related to



CLAIMS TRENDS. A screen shot of Mangino's presentation shows some of the trends AXA XL has been seeing lately.

the breach. Finally, there must be actual damages demonstrated.

A judge, jury, arbitrator or finder of fact determines what happens next. Expert witnesses will help them determine what is the standard of care and whether it has been violated. She warned that jurors don't really understand what engineers do.

Mangino said standards of care can change through contracts, code changes, and changes to regulations and laws. A professional's conduct also can change the standard if he or she tells the client they will accept an increased obligation.

Finally, standards of care can change through changes in customary practice. For example, the Kentucky Legislature after a school shooting called for school districts to review potential safety precautions. The design suggestions created future potential grounds for negligence.

"Once somebody starts doing something, and it becomes foreseeable to avoid injury, you then see how this sort of plays out and changes your standard of care," she said.

Mangino said AXA XL has been seeing a quick push to settle open claims. Clients have been contacted by large clients demanding claims be settled while threatening the loss of future work. Fee

disputes have been more common as companies endure economic uncertainty. When firms have demanded payment, their clients have countered that the firms have been negligent. More subconsultants have been making mistakes and not accepting responsibility, so engineering firms should ensure the subconsultants have adequate insurance. Technical errors have been more common, which likewise is happening more often in Arkansas, said Ken Estes of BXS Insurance. Mangino said if a firm does make a mistake and the only argument is over damages, it should pay quickly.

Looking ahead, Mangino expects to see more claims because of delay impacts, and there will be some slippage on quality control and quality assurance caused partly by the lack of face to face collaboration. The coming months present economic opportunities, but there have been more terminations for convenience, so firms should review their contracts to see if clients can terminate without cause.

Cyber breaches have become a bigger concern. Estes said more firms have failed to protect against cybercrimes, and his company is seeing more ransomware claims. "Cybersecurity, cyber losses are not going away. They're only getting worse," he said.

Dean: UA hoping for full classes in fall

First female dean reports on pandemic response, new Walton-funded institute

The University of Arkansas College of Engineering was 5% ahead of last year's pace in admitted students and hopes to have 3,200 undergraduates this fall. It also hopes to have a full return to face to face classes.

Dr. Kim Needy, P.E., the college's new and first female dean, said at the ASPE Annual Conference April 1 that the university hopes to have primarily face to face instruction this summer, with masks and social distancing. Then it hopes for full face to face classes this fall, although it has a backup plan if needed.

The College of Engineering had about 660-700 incoming first-year students at that point, about 460 of them from Arkansas, she said. It expects graduate enrollment to remain flat at 1,100. Mechanical and computer science/computer engineering have been the two largest undergrad programs for the past few years.

Needy said that while many universities experienced enrollment declines as students took gap years during the pandemic, the University of Arkansas held steady. Undergraduate and international enrollment declined, but graduate enrollment reached record levels. With jobs scarce, students were staying in school to earn a master's degree.

Needy said the university shut down shortly before spring break in 2020. Classes moved online, which could be challenging as some students lived in remote areas and because students, faculty and staff had more responsibilities at home. The university extended deadlines and changed its grading policies. Research was shut down, while the university implemented policies regarding distancing, masking and cleaning protocols.

Once the fall began, about 45% of the classes had at least some face to face contact, which for a large class might include having a third meet in person on a given day. That 45% exceeded the university's goal of one third. Unexpectedly, many students opted to remain virtual not only for health and safety reasons but also for convenience. In the spring, the university



DR. KIM NEEDY said UA enrollment held steady thanks to higher grad student counts. Photo courtesy UA University Relations.

was more intentional about ensuring students applied for an accommodation to avoid face to face classes. That spring, 59% of the classes had face to face instruction, which exceeded the goal of 50%.

The pandemic created several financial challenges. Students needed refunds when they moved out of housing, and they weren't using meal plans. Some students incurred extra costs, including international students who were stranded on campus. The university implemented fundraising plans for student assistance, raised money for students in need, and took advantage of federal CARES Act funding.

The university has had several vaccine clinics on campus. Between February to mid-March, most of the faculty and staff had a chance to receive the vaccine, Needy said.

She said the College of Engineering is operating under a strategic plan, with the biggest changes needed in its research

plan and portfolio. She noted that the University of Arkansas raised just under \$1.5 billion in its latest eight-year capital campaign, an amount that was reached with help from a \$194.7 million grant from the Walton Family Charitable Support Foundation to fund the Institute for Integrative and Innovative Research (I3R). That entity will focus on data science, food and technology, materials science and engineering, bioscience and bioengineering research in metabolism, and integrative systems neuroscience.

"The College of Engineering is a major player in all of those areas," she said.

She said the gift will construct the program's new facility. Also, the I3R program is hiring 21 faculty members, some of whom will have appointments in the College of Engineering.

"We're pretty excited about this initiative because we have expectations that this will transform research on our campus," she said.

She said the College of Engineering is trying to be a campus leader for justice, equity, diversity and inclusion. She noted that she is the College of Engineering' first female dean as the university celebrates 150 years.

She stepped into the role last November 1 after the previous dean, Dr. John English, became vice chancellor of the Division of Research and Innovation. An industrial engineer, she previously was dean of the Graduate School and International Education for six years and, before that, headed the Department of Industrial Engineering. The Pennsylvania native earlier worked in the private sector for PPG Industries and Boeing.



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ASPE Annual Conference

Virtual meetings raise ethical concerns

Geraci: Must make sure that people actually receive the training, even if their cameras are turned off

The COVID-19 pandemic has led to new ways of meeting in groups, but it's also made it easier to get undeserved credit for unattended training. Trainers can take steps to reduce that risk, but ultimately engineers should act like the professionals they are.

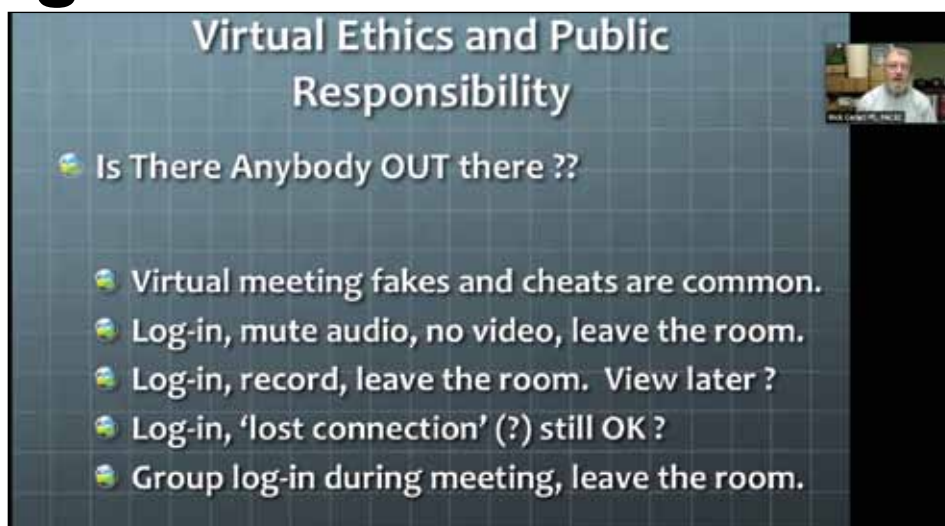
That was part of the message of "Virtual Ethics and Personal Responsibility" a presentation by Rick Geraci, P.E., at the ASPE Annual Conference April 2. Geraci, an electrical engineer and the co-founder of TLG Engineers, annually gives an ethics presentation.

Geraci said online participants can log in, mute the audio, turn off their video camera, and leave the room. Some log in, record the presentation and then leave, and there's no proof that they actually viewed it later. Some log in but have difficulty with the connection.

Geraci said trainers have an obligation to ensure people attended the meeting. Hosts can take a screen headcount, send an email or text at the end to confirm attendance, or issue code words and numbers during the presentation that attendees confirm they have received. Random prizes during the session can keep people on board, which was the method employed at the ASPE Conference. Group confirmations also can be used.

"Bottom line is, we're all professionals, and we should act accordingly," he said. "And that means that you say you're there, you see the material, you confirm that you've seen the material, and that's the way we should be acting."

Geraci also said engineers have a lot of public responsibilities as highly trusted professionals sworn to uphold the public's health, safety and welfare. Those responsibilities include the ways engineers conduct themselves in the virtual world. Engineers should not present misinformation or sketchy information. They should be thoughtful about what they post and should communicate only what



RICK GERACI, P.E., said trainers must ensure that individuals who say they attended the professional development activity actually did.

they know to be true. They shouldn't support unproven claims and allegations, even if they think they might be true, because engineers deal with facts and provide concrete answers.

"We do that in our professional work as well. We don't do a design because we think maybe its going to work," he said. "We do it because we've done the calculations and we know that it will work."

He said engineers have a special responsibility to be truthful because of their reputation and standing in society.

"Remember that our words are powerful, and they're taken seriously by the public," he said. "Again, they look up to us because of the amount of education we have, the positions in business and society that we've attained, what we do in the way of roads and bridges and buildings and manufacturing, and all of those things that engineers are involved in. They may not understand how we did it, but they know that it's pretty amazing stuff, and when they hear us say something, they feel like we know what we're talking about."

Regarding the pandemic itself, Geraci encouraged engineers to wear a mask where required, to practice safe distancing, to get vaccinated if medically able, and to help others. If engineers aren't worried about protecting themselves, they should at least think about protecting others. He said more open assemblies

soon will be occurring. Engineers should be aware of safety concerns if invited to an event, and to voice concerns if they have them.

Rule #1: 'Don't do stupid stuff'

In response to a question about changing societal values, Geraci said he had been working in engineering for almost 50 years starting in 1972, and much has changed. Here is most of his thoughtful quote.

"Things are a lot different now, and whether you want to say it's integrity or you want to say it's just the way business is done, it used to be that we did business with a handshake," he said. "And we had contracts, but a man's word was his bond, and things were slower. They were less complicated in a main sense of the word 'complicated.'"

"So it really was individuals dealing with individuals. And so integrity was your stock-in-trade. Your reputation is what you sold. It's all you had to [sell]. You didn't have a product so much as what you did, what came out of here. And you were trusted that you could do those things.

"So yeah, it was integrity, it was reputation, and those sorts of things. Today it's not that so much. There's a lot of flash-bang. ... And some of it's false, and some of it just has to be done because that's how business [is done]."

"But when you get right down to it as Nicole [Mangino, AXA XL] and Ken [Estes, BXS Insurance] were saying, there's a lot of liability out there, and in the past we didn't have as much of an issue with the liability because everyone trusted that who they were dealing with knew what they were doing, and they did it. I don't know that that's the case so much anymore, and there's probably a lot of reasons for that. I do have a minor in psychology, but I'm not going to go there.

"But there is a change, I think, in society and in the way business is done, and what's unfortunate is our profession, whether it's voluntary or not, has had to follow [the changes], or is following them.

"And I bucked that trend. I don't think that's necessary. I think it's easy to say no. When you see it's not the right thing to do or the client wants you to do something you think is stupid, you just say, 'No, I'm not going to do that.' And it may cost you the client, but ... it's not going to be a legal



GERACI says sometimes engineers should just say no, even if it means losing a client.

issue. It just costs you some money. It's the right thing to do.

"You know, don't do stupid stuff. That's rule number one. And if you follow that, then not only are you doing the right

thing, but you're saving your integrity; you're protecting the public; you just do what's right.

"You never thought about it back in the old days, but today everything moves so fast and it's so complicated, sometimes it's hard to do that. You're asked to do something, provide it in a very short time period, the company needs to work, you know, all these things and [you] jump right in the middle of it. And there needs to be more thought put into it.

"So I guess to answer your question, yeah, things are different, but I think it's been more forced upon us than an actual change in what engineering's all about and what we should be doing. I think it's the nature of the world now, and we need to try to figure out how to stay out of step with it, not in step with it.

"But that, again, that's just kind of me. It's easier for me to say that because I've already been there. It's much more difficult for you. You still have all these things to face."

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ACEC/A Member Spotlight

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"Really, if we do our job right, nobody ever sees us and knows what happened because most of it's under the ground," said Joe Vistad, P.E., the company's branch manager with 22 employees in three offices in Little Rock, Fort Smith and Springdale.

The company's specialty is geotechnical engineering and construction materials testing. It also provides special inspections to ensure compliance with International Building Code requirements. It conducts subsurface explorations to assist design teams with soil parameters for designing the foundation, floor slabs, and building pad construction. During the construction phase, it tests the concrete, asphalt, soil and fill to ensure it meets the design assumptions. It inspects the rebar, observes drilled pier and deep foundation excavations and installations, and performs other tasks to ensure the project is fitting the plans and is meeting code.

It also assists contractors with unforeseen problems. Often the groundwater measurements will change between the geotechnical investigation and construction. Also, because there is not always a geotechnical engineering report or a completed exploration, there can be unexpected rubble fill that can cause a problem during construction.

"We stay pretty well hidden when things are going well," Vistad said. "When things are challenging, that's a lot of times where we are starting to come to the forefront and help get through those challenges. ... When there are challenges out in the field, that's where we really start to



PLAYING IN THE DIRT. Above, Building and Earth Sciences provided design-phase geotechnical engineering consultation along with construction materials testing and special inspections for the 60-acre J.B. and Johnelle Hunt Family Ozark Highlands Center in Springdale. At left is the University of Central Arkansas' Integrated Health Science Building, which is scheduled to open this fall. Photo courtesy of UCA.

shine and help the design team and the construction team navigate those issues."

The Birmingham, Alabama-based company was founded in 1988 by Deepa Bhate, a female immigrant from India, and now has 18 offices in nine states throughout the Southeast, Texas and Oklahoma. It employs more than 150 people and is registered in 35 states.

Among the company's Arkansas projects has been the Arkansas Game & Fish Commission's J.B. and Johnelle Hunt Family Ozark Highlands Center in Springdale. Building and Earth Sciences provided design-phase geotechnical engineering consultation along with construction materials testing and special inspections for a development covering almost 60 acres. Among the challenges was significant uncontrolled and rubble fill.

Building and Earth Sciences also provided construction materials testing and special inspections services for the University of Central Arkansas' Integrated Health Science Building. It observed and

inspected drilled pier foundation installation, inspected the structural steel, inspected the fireproofing, and provided other services.

Another project was the Springdale School District's Don Tyson School of Innovation. Building and Earth Sciences provided design-phase geotechnical engineering consultation as well as construction materials testing and special inspections for the 130,000-square-foot addition. Low consistency soils required remediation. Costs were cut by efficiently using onsite materials as structural fill.

A personal favorite of Vistad's was the new visitors center at Petit Jean State Park. Building and Earth Sciences was involved during the design phase, geotechnical investigation, and construction materials testing.

"From an engineering standpoint, there's nothing really spectacular about it, I guess I would say," he said. "But it's a memorable one to me just with the setting and it's just such a beautiful space (that) it was fun to be a part of that as well."

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