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Mike Morehouse started Davids Hydro Vac with nothing to his name — except a supportive wife, a strong mentor, technical knowledge and an unshakable belief in himself.

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ON THE COVER: Mike Morehouse, CEO of Davids Hydro Vac in White Bear Lake, Minn., works the truck hose from a Vactor HXX PD hydroexcavator while on a job site in a Twin Cities suburb where crews had to excavate around high school football bleachers. (Photography by Brad Stauffer)

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Published bimonthly by COLE Publishing, Inc. 1720 Maple Lake Dam Rd., PO Box 220, Three Lakes, WI 54562

Call toll free 800-257-7222 Outside of U.S. or Canada call 715-546-3346 Mon.-Fri., 7:30 a.m.-5 p.m. CST

Website: digdifferent.com / Email: info@digdifferent.com / Fax: 715-546-3786

SUBSCRIPTION INFORMATION: A one year (6 issues) subscription to Dig Different[™] in the United States, Canada and Mexico is FREE to qualified subscribers. A qualified subscriber is any individual or company in the United States or Canada that partakes in partakes in excavation, tunneling, boring, trenching, pipeline rehabilitation, relining or bursting including manufacturers, dealers, and service companies. Non-qualified subscriptions are available at a cost of \$60 per year in the United States and Canada/Mexico and \$80 per year/\$150 for two years to all other foreign countries. To subscribe, visit digdifferent.com or call 800-257-7222

ADDRESS CHANGES: Submit to Dig Different, P.O. Box 220, Three Lakes, WI, 54562; call 800-257-7222 (715-546-3346); fax to 715-546-3786; or email nicolel@colepublishing. com. Include both old and new addresses

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EDITORIAL CORRESPONDENCE: Address to Editor, Dig Different, P.O. Box 220, Three Lakes, WI, 54562 or email editor@digdifferent.com.

REPRINTS AND BACK ISSUES: Visit digdifferent.com for options and pricing. To order reprints, call Jeff Lane at 800-257-7222 (715-546-3346) or email jeff1@colepublishing.com. To order back issues, call Nicole at 800-257-7222 (715-546-3346) or email nicolel@colepublishing.com.

CIRCULATION: Average circulation is not less than 22,500 copies bimonthly.

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SOMETIMES IT TAKES A LITTLE BIT OF DETERMINATION — AND HELP FROM OTHERS — TO GET A BUSINESS GOING IN THIS INDUSTRY ... AND REMEMBER, THINK OUTSIDE THE BUCKET!

Welcome to Dig Different we've created this magazine for you, a new breed of excavator

BY CORY DELLENBACH, EDITOR

here was a time when steam-driven buckets and blades were cutting edge in the world of excavation, but technology has come a long way since then. As construction requirements grow more stringent and the ever-expanding grid of belowground utility lines create new challenges, a whole new generation of technology is gaining favor.

And that's what this magazine is all about.

Dig Different is for you, specifically tailored to alternative excavation techniques such as hydroexcavation, trenching, horizontal directional drilling, pipe bursting, boring and tunneling. And for those of you who do your digging with traditional buckets and blades, we've got plenty for you, too.

IN THIS ISSUE

Dig Different will feature profiles of contractors who use these techniques for everything from uncovering underground utilities to running new pipe under river beds. You'll learn how they found their way into the industry, how they've built their business and what they do to ensure success and customer satisfaction.

This month's profiles are on Davids Hydro Vac, a hydroexcavation company near the Twin Cities, and JK Trenching, a contractor based in northeastern Wisconsin.

Mike Morehouse started Davids Hydro Vac with little to his name, but after five years his company, with help from some good relationships, has grown to a fleet of four trucks working throughout Minnesota.

Sometimes it takes a little bit of determination — and help from others — to get a business going in this industry. It can be a hard one to break into, but those who do, like Morehouse, feel a sense of pride.

JK Trenching started off much the same way as Davids Hydro Vac. Brothers Keith and Jeff Newhouse decided to start a trenching business from scratch with no real experience and not a whole lot of cash.

The brothers got help from a local retailer who gave them suggestions on what they needed to start the business. Now, the company stays busy with field-tile and trenching jobs.

REGULAR FEATURES

You'll also find several other regular features and columns in each issue, including:

- Machine Shop Tips directly from the manufacturers on servicing and caring for your equipment.
- Down & Dirty Tales from fellow contractors on the unique and difficult projects they've tackled.
- **Tech Perspective** Technical information and insight on specific issues and technology.
- Safety First Information, advice and new products to help you keep your people healthy and safe. Other regular features include Happenings, The Lat-

est: Products, and The Latest: News.

CONTACT ME

I would like to hear what you, the folks who work in this industry, would like to see in future issues of *Dig Different*. Are there certain topics you want covered? Are there safety issues you'd like us to discuss? What about technology you are using?

Feel free to reach out to me at editor@digdifferent.com with any questions or comments.

And remember, think outside the bucket! **▼**





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FAMILY BUSINESS Finding a Niche in Hydroexcavation

With a five-generation pedigree of entrepreneurship, Kris Norris was destined to run his own company. Piggybacking off his brother's construction firm, Norris launched his own hydroexcavation business, acquiring his own equipment and hiring his father as his first employee. Learn what resources Ottawa-based NCM Hydro Vac Services needed to expand its operation. digdifferent.com/featured

ON THE RISE

US Among Top Markets for Infrastructure Investment

According to a recent report released by ARCADIS, the United States currently ranks among the top markets in the world for infrastructure investment. Thanks to ongoing efforts to rebuild its aging infrastructure, the U.S. cracked the top-10 for the first time. Where does the nation rank among the 41 countries listed in the report? digdifferent.com/fectured

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Pipe Bursting Helps Texas Contractor Upsize Sewer Without Digging Up Park digdifferent.com/featured



Is Your Hydroexcavator Winter Ready?

In extremely cold temperatures and high winds, your equipment sure can take a beating. Taking a few

precautionary measures can extend the lifetime of your hydroexcavator. Todd Volkman, a GapVax operator at Goliath Hydrovac, offers a number of preventative tips to keep your equipment running during the dark days of winter. **digdifferent.com/featured**

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PERSISTENCE PAYS BIG

MIKE MOREHOUSE STARTED DAVIDS HYDRO VAC WITH NOTHING TO HIS NAME — EXCEPT A SUPPORTIVE WIFE, A STRONG MENTOR, TECHNICAL KNOWLEDGE AND UNSHAKABLE BELIEF IN HIMSELF

STORY: KEN WYSOCKY PHOTOS: BRAD STAUFFER

Five years ago, Mike Morehouse had \$18,000 to his name, a couple of credit cards, no job, a pregnant wife and his back, as he puts it, up against the wall.

Today, Morehouse and his wife, Heather, own the thriving Davids Hydro Vac in White Bear Lake, Minn. The name alludes to the David-versus-Goliath mentality that spurs Morehouse on. The company runs four Vactor HXX PD hydroexcavation trucks, employs 11 people and is so busy that the Morehouses planned to buy a fifth truck in 2014.

Clearly, a lot can happen in five years. Morehouse's rise from unemployed hydrovac truck operator to successful business owner shows the power of determination, confidence, work ethic, business moxie and a supportive spouse — not to mention the good luck of befriending an influential benefactor in Jack Doheny, founder and president of Jack Doheny Companies.

"I feel very fortunate and blessed that I was able to put all this together," says Morehouse, 34. His business serves customers in Minnesota and throughout the Upper Midwest. "When I started out, I was 29 and didn't have a pot. I was at a point where I needed to make something happen."

Davids Hydro Vac Inc. White Bear Lake, Minn.

OWNERS: Mike and Heather Morehouse FOUNDED: 2009 EMPLOYEES: 11 SPECIALTIES: Hydroexcavating SERVICE AREA: Upper Midwest WEBSITE: www.davidshydrovac.com

WILD RIDE

Morehouse's wild ride began in 2009 when he lost his job after a dispute with his employer. Through business contacts he knew about some work coming down the pike and decided to strike out on his own. He landed a contract to do utility-line locating for an energy company on a pipeline project in northern Minnesota. "WHEN I STARTED OUT, **I WAS 29 AND DIDN'T HAVE A POT.** I WAS AT A POINT IN MY LIFE WHERE I NEEDED TO MAKE SOMETHING HAPPEN." Mike Morehouse

> Davids Hydro Vac crew members Chris Nelson (left) and Dylan Nelson use a Vactor HXX PD hydroexcavator to locate gas mains on a farm in Hugo, Minn.

The team at Davids Hydro Vac includes, from left, Jeremy Doerfler, operator; Dylan Nelson, laborer; Mike Doerfler and Chris Nelson, operators; Mike Morehouse, owner; Shawn Bengtson and Jonnie Pangerl, operators; and Tony Bengtson and Andrew Nilsson, laborers.

"TAKING THAT TRUCK BACK WAS THE WORST FEELING IN THE WORLD. I FELT LIKE I'D LET EVERYONE DOWN."

The bad news: He didn't have a hydrovac truck. The good news: When it looked as though he might land the contract, he took a friend's advice and contacted Doheny, a 40-year veteran of vacuum-truck equipment sales, rental and service. "Tom and Jack Doheny were

instrumental in getting me started,"

Mike Morehouse

Morehouse says. "My business wasn't even incorporated yet, but Jack took a liking to me. We threw a rental agreement together in two weeks. I had to borrow money from my family and didn't even know how I'd pay for fuel. But I knew I had to go big and risk it all. If nothing else, I felt confident in myself because I knew I was good at what I do."

Doheny says, "Mike knew what he was doing and knew the business well. Hard work doesn't scare him. Plus, I was raised in Minnesota, and I know the work ethic people have there — they don't mind getting their hands dirty so I didn't consider it a big risk. Even over the phone, I could tell Mike was a straight shooter."

Used vacuum trucks are hard to come by quickly, but Jack Doheny Companies had just taken in a rental hydroexcavator (a 2007 Vactor HXX PD) that would be ready in seven days, just two days before Morehouse was to start work on the pipeline project. So after using an online service to incorporate

Operating Davids Hydro Vac in White Bear Lake, Minn., are the husband and wife team of Mike Morehouse, CEO, and Heather, president.

14 DIG DIFFERENT

their company, he and Heather flew to Michigan to pick up the truck and drive it back home.

"We were in such a hurry because I had to be in Bemidji, four hours north of the Twin Cities, in less than two days," Morehouse says. "While Heather was filling out paperwork, people from Doheny were helping me grab everything I'd need. Then they gave me a slap on the rear and we hit the road. About eight hours after we got home, I was headed for the job site."

UPS AND DOWNS

The four-month-long pipeline job went well, but after that, work became scarce, and when Morehouse couldn't make the lease payments, he had to give the truck back. "Taking that truck back was the worst feeling in the world," Morehouse says. "I felt like I'd let everyone down."

But after Morehouse found a job as a jetter-truck operator at a Wisconsin-based company, he got a call from another power utility that had heard about him through word-ofmouth. The company was dissatisfied with its hydroexcavating contractor and wanted to hire Morehouse. "Jack had told me that if I ever needed anything, I should just give him a call," he says. "So I did and we went through the whole thing all over again in August 2010."

After that job, things slowed up again, but Morehouse kept passing out business cards and making contacts, and soon he was receiving steady work. "The exposure I received from working for that power company was key," he says. "All it takes is one person who notices you do good work to go tell someone in the construction field that there's a hungry kid out there busting his tail."

Business quickly grew, and Morehouse leased a second truck in March 2011, a third in June 2012 and a fourth in March 2014. Making the payments still was difficult, but he increased cash flow in 2012 by finding a bank willing to finance the three trucks he owned at the time. That made his monthly payments more manageable.

VARIETY OF APPLICATIONS

Morehouse enjoys the variety of ways he can wield hydroexcavation technology to solve customers' problems. One day he might expose building footings for a client who needs to

Strength in Numbers

When customers call Davids Hydro Vac, they know exactly what they'll get, no matter which of the company's four workhorses roll onto their job sites. Davids owns four identical Vactor HXX PD hydrovac trucks built on Kenworth T800 chassis by Vactor Manufacturing (a subsidiary of Federal Signal Corp.).

Each truck carries a 12-cubic-yard debris body, a Hibon blower (5,250 cfm at up to 2,000 rpm), a 1,200-gallon water tank, a Cat Pumps water pump (20 gpm at 2,500 psi), a 940,00 Btu burner for heating water and dual cutting wands for increased productivity and efficiency.

"I just like Vactor trucks," says owner Mike Morehouse. He likes them so much that he had a photo of a Vactor HXX printed on employees' T-shirts and caps. "When I worked for another company, I used a Vactor. They're very user-friendly and durable, and Vactor provides great customer service.

"I like the product and how it works — very uncomplicated. And it's a nice-looking truck, too. It looks like a lighter truck because it has less metal on it."

Morehouse believes identical trucks create great brand recognition. "It helps with maintenance, too, because we can order items in bulk," he says.

The burner heats water up to 190 degrees F, hot enough to cut through frozen ground. "We work year-round and we can't work in winter without hot water," Morehouse says. "With our burner, we can create a 5-foot-square by 8-foot-deep hole in one day even with 5 feet of frost." Each truck also has a cold-weather recirculation package in which a pump constantly circulates water so it doesn't freeze.

The trucks' Vansco Electronics controls system increases efficiency, enabling operators to perform on-site diagnostics without a mechanic. "Before, we had to use a test light to perform diagnostics, which meant you had to find a place to ground it off and test fuses and connect lines," Morehouse says. "There were so many cords running here and there that made it difficult to do. But with the Vansco system, you can see everything that's going on with the truck on an external 7-inch LCD screen: blower speed, engine rpm, the temperature of hydraulic fluids and so forth.

"You can narrow down where a malfunction is occurring, where before it was a guessing game. It saves us a lot of time. They all break down periodically because they work in a tough environment year-round."

What's the truck's most valuable feature? "Everything," Morehouse says. "That's why I have four of them."

> Four identical Vactor HXX PD hydroexcavation trucks are subject to a tough environment year-round on the job at Davids Hydro Vac.





Mike Morehouse (left) and Shawn Bengtson set up for a job outside Abbott Northwestern Hospital in Minneapolis.

know how deep they're set. The next day he might excavate in the basement of a giant building, perhaps 300 feet away from the truck. Or do tunnel maintenance. Or potholing.

Davids also excels at emergency work that other companies don't want or are not equipped for. In one instance, a contractor was horizontal boring under a lake bed in Minnesota to install a natural gas pipeline when a ground fracture released drilling mud into the shallow lake.

To solve the problem, Morehouse and his crew took a 6-foot-diameter, 6-foot-long piece of culvert pipe and set it down vertically over the fracture, containing the drilling mud. Then they strung 400 feet of hose from shore and vacuumed mud out of the pipe. The truck expelled the mud through a decant hose and into a tail ditch, where vacuum trucks from another company sucked



it up and hauled it away. "I was just blown away that one of our trucks could pull material that far," he says.

Morehouse also prides himself on working smarter to cut operating costs and serve customers better. A good example is the network of dumping sites he has established in strategic locations to reduce travel time.

"It's really hard to find places where you can dump slurry," he notes. "So whenever I had extra time, I would drive out to farmers and sand and gravel pits and ask if they'd accept slurry. I got a lot of 'no's,' but also received enough

"MIKE KNEW WHAT HE WAS DOING AND KNEW THE BUSINESS WELL. HARD WORK DOESN'T SCARE HIM."

'yeses' that I now have sites in and around the Twin Cities metro area. It's all about time. Time is money, and customers don't want to pay us to waste time." He has done the same thing to establish convenient waterrefill locations.

Safety is paramount in hydroexcavating, for employees' well-being and to keep customers satisfied. Davids employees undergo a year of train-

Jack Doheny

ing before they're allowed to operate a \$500,000 hydrovac truck on their own.

"It only takes one incident to cause a lot of problems, so we're all about safety, safety, safety," he says. "We might work for power companies and then water-and-sewer utilities and then mainline gas general contractors, and they all have different safety standards.

"Plus there are different ways to excavate soil. Most people think you're just spraying water on the ground, but it's a science — there's a right way to do it. And you also need to know what you can get the truck into and out of. These are big trucks and there's a lot going on at construction sites. That's why it takes a year for training. It's for my comfort level and for my customers. I want our customers to know they're getting an experienced operator."

BRIGHT OUTLOOK AHEAD

After operating for five years, Morehouse finally feels established: "We're here to stay. We've got a good reputation, and that makes me want to work even harder. The guys and I all have something to prove.

"When we first started out, there were times when I had to choose between feeding myself or putting diesel fuel in the truck. There were times when I didn't know if things would pan out, but Heather always supported me 100 percent. We're a great team.

"WE'RE HERE TO STAY. WE'VE GOT A GOOD REPUTATION, AND THAT MAKES ME WANT TO WORK EVEN HARDER. THE GUYS AND I ALL HAVE SOMETHING TO PROVE."

Mike Morehouse

Davids Hydro Vac excels at emergency work that other companies don't want or are not equipped to handle. Here, Shawn Bengtson (left) and Andrew Nilsson work inside a shoring box as they set up for a hydroexcavation project.

"And I have to give a big shout-out to our guys. Any business is only as good as its employees, and there's no way we would be as successful as we are without them. They work really hard and represent Davids in a great way."

Morehouse expects to sell one of his older trucks and order two more new vehicles this year. He plans to add one truck a year so he has enough capacity to accept more work. "As we grow, we're getting more spread out geographically, so we risk losing work locally if we send a truck out of town," he says. "We're trying to keep up with demand without growing too fast."

At times, Morehouse looks back five years and is amazed at what's transpired. But he also remains driven by memories of the lean times. "I worked hard for what we have and I want to keep it going because I remember what it was like without it," he says. "I really do believe that anything is possible if you just believe in yourself."

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Keep Your Jetter Jetting

A PROACTIVE MAINTENANCE ROUTINE HELPS PREVENT EQUIPMENT FAILURES

BY KYLE ROGERS

ou're out in the field using your jetter on a job when suddenly you experience a problem. Perhaps you've fallen behind on the engine maintenance schedule and that component breaks down. Maybe the high-pressure water running through a worn hose causes it to rupture. Or the unit continues to function, but not at the pressure level needed to get the job done.

To ensure your jetter doesn't cost you downtime and remains a reliable piece of equipment over the long term, there are several maintenance practices that contractors should follow regularly.

"The main thing to do on a daily basis is check the oil in the engine and the pump, make sure it's up to marks," says Nick Woodhead, president of US Jetting.

Other items that are important to monitor daily include the hose, water filter and tires if the jetting unit is on a trailer.

"The filter is a key part of the jetting package," Woodhead says. "If you want it working properly, you need to have a clean filter. What people should do is have a check list so you know you've done it all when you send [the jetter] off."



A jetter is attached to a truck ready to be used by the Barwon Water Department in Australia. There are several components to a jetter that should be checked often for signs of wear and tear, including the hose, water filter and tires.

GETTING ON A SCHEDULE

Often the way the machine is functioning will be the

sign that there's a problem with a component. Woodhead says the 500-hour mark is a good time to carefully inspect the pump and valves if operators want to catch any issues in advance. Otherwise 1,000 hours of use is typically the time when valves and packings need to be replaced.

Chester Axley, national products director for Power Line Industries, says simply following the manufacturer's recommended service schedule is the best way to maintain machine components that don't require daily attention.

"You'll have a service on the motor, a service on the pump. If it's a hot-

"IT'S KIND OF LIKE A CAR. THERE ARE SOME THINGS THAT YOU DO AT A CERTAIN POINT ANYWAY, WHETHER THERE'S A PROBLEM OR NOT, SO YOU'RE NOT BREAKING DOWN SOMEWHERE."

Nick Woodhead

"They usually will tell you when something's wrong. There will be a hammering. Generally speaking, people will run the equipment until there's a problem," Woodhead says. "It's kind of like a car. There are some things that you do at a certain point anyway, whether there's a problem or not, so you're not breaking down somewhere."

He says jetter users might have to re-torque pump head bolts occasionally if a pump valve is failing prematurely.

water unit, you're going to have a service on a burner," Axley says. "And the guy servicing it should be running it, like we do here. We have a piece of pipe that we stick the hose down and we turn the machine on and watch it work. Now we're looking for leaks at joints. We're looking

at hoses. Are there any bulges? Is the pump leaking any water? This will stave off getting to the job site and pow, you've got a problem."

He says with Power Line's jetting units, for example, the recommended service schedule includes changing engine oil every 50 hours, and changing engine filters and checking spark plugs every 80 hours. The pump oil only has to be changed every 400 hours, but if there's a problem it can be headed off during the 50- or 80-hour service.



"Check the pump to make sure the oil isn't turning milky or looking white," Axley says. "That's telling you water is seeping back behind the head of the pump, which is telling you that water seals are wearing out."

BACKUP PARTS ON HAND

No matter how strictly jetter users adhere to a regular maintenance schedule, there are components that will eventually need to be replaced. Axley recommends operators keep some backup parts on hand in case there is a problem with the jetter while out on a job.

"If you have what I call a care package on the shelf or in a truck and you have a problem in the field, you're going to be able to finish the job," he says.

That care package should include a high-pressure ball valve, an unloader valve, a safety release valve and, if it's a hot-water unit, a thermostat and pressure switch.



"Those are probably the most wearable items. They do break and they do fail," Axley says.

Loss of pressure is a strong indicator that a component needs to be replaced.

"Eventually, the nozzles will wear. If it's not coming up to pressure, it's a good sign that's worn out," Woodhead says. "The unloader valve, those can go bad. The seat can wear out, dumping water all the time — basically, not getting pressure. If you know what pressure you get with a certain tool and it's not coming up to pressure, check to make sure it's not dumping water."

THE LEAD

Woodhead says the jetting component most vulnerable to wear if not taken care of is the hose. He recommends using a tiger tail, or any sort of guide, to protect the hose from items that may puncture it.

Eric Bragg of Bragg Excavating in Marion, Ind., says his company uses a pipe or sleeve at the point where the jetter hose is entering to protect it as much as possible. He says they also add a lead to the hose.

"Most of the problems will be on the lead, not the actual hose itself," Bragg says. "We run a 17-foot lead off the end of our hose. Then you can just take the lead off and replace that instead of having to replace 300 feet of hose."

PROPER TRAINING

Also factoring into jetter maintenance is the training of the equipment operators. How an operator is running the equipment can be the difference between a wearable component like the hose lasting for five minutes or 1,000 hours, says Woodhead.

"Training the operators properly is important because, invariably, if they're not properly trained you're going to have problems with the equipment. They do what they see their buddies doing, so you also have to think about who's training the trainer." \checkmark



Perma-Liner receives WSSC approval for lateral linina

Perma-Liner received approval for its Perma-Lateral system from the Washington Suburban Sanitary Commission (WSSC). The WSSC provides drinking water and wastewater treatment for Montgomery and Prince George's counties in Maryland. Established in 1818, it is the eighth largest water and wastewater utility in the United States, serving about 1.8 million people.

Georg Fischer opens **California location**

Georg Fischer, part of Switzerland-based Georg Fischer Ltd.'s North American Piping Systems business unit, expanded from its Tustin, Calif., location to a new facility in Irvine, Calif. The 115,000-square-foot center can accommodate previously out-sized work areas as well as future growth.



Mike Czipar



Jaques

LMK names vice president, sales manager

LMK Technologies named Mike Czipar vice president, business development, and Jacqueline Jaques western regional sales manager. Czipar will be responsible for working with the sales team to recruit, train and mentor new municipal contractors and crews. He will also assist with identification and integration of new products and processes. Jaques will be responsible for providing sales, product and technical support, as well as assisting with project specification review, developing a network of licensed contractors to install LMK product and educating the industry on the need to address laterals as part of their trenchless rehabilitation programs.

J. Fletcher Creamer & Son named authorized Scotchkote applicator

J. Fletcher Creamer & Son was named an authorized applicator for 3M Scotchkote pipe renewal liner 2400. The liner is a quick-cure, polyurea formulation that can be CCTV inspected in 10 minutes and fully cured in 60 minutes.

Wastequip launches aftermarket parts business

Wastequip launched Go To Parts, a new business offering OEM aftermarket parts for waste, recycling and construction equipment.



Vac-Con employees collect clothing, school supplies

Vac-Con employee owners held a clothing drive to benefit the Mission House, donating 2,333 items weighing 1,761 pounds. In 2013, Mission House assisted 51 people living on the streets of Jacksonville, Fla., helping them return to self-sufficient lives. Employees also held a school supply drive benefiting Project Reach Kids, an organization that helps 1,100 homeless children in Clay County each year.

HammerHead Trenchless celebrates 25th year

HammerHead Trenchless Equipment celebrated its 25th anniversary in 2014. The HammerHead Mole pneumatic piercing tool was designed in 1989 by earth-piercing tool owner Jon Haas and design engineers Rob Crane and Steve Wentworth in Haas' garage. The company also launched www.hydraliner.com, an online store for its HydraLiner cured-in-place lateral lining system.

GapVax adds Gulf Coast sales rep

GapVax hired John Dean as sales representative for the Gulf Coast. He will also oversee the company's Texas office, repair facility and parts center.



Manitou donates skid loader to school

Manitou Americas donated a Gehl skid loader to the University of Wisconsin-Washington County in West Bend. The R190 skid loader will be used for multiple landscape projects.

Quadex names assistant manager

Quadex/InterfitUSA named Taylor Daniels assistant manager of technical services for the company's line of rehabilitation cements and coatings and the Interfit lateral connection sealing system.

Wessex employee named Young Engineer of the Year

Liam MacFarlane, critical sewers engineer for Wessex Engineering and Construction Services, Wessex Water's in-house construction arm, was named Young Engineer of the Year by the UK Society for Trenchless Technology. The award was based on MacFarlane's technical paper Holistic Approach to Infiltration and Inflow Exclusion that highlighted an Electro Scan project.

Amthor International names distributor

Amthor International named Tommy Webber and his team at Spartan Tank & Trailer, Spartanburg, S.C., as a distributor for the Amthor product line. Spartan Tank is a distributor of vacuum, oil, portable restroom, water, propane and refined fuel trucks.

Ditch Witch recognizes top dealerships

Ditch Witch recognized its top 10 dealers for 2013. Honored for their service and support were Ditch Witch of North Carolina, Ditch Witch of Mid-South, Ditch Witch of North Dakota, Ditch Witch Sales, Ditch Witch UnderCon, Ditch Witch of Minnesota, Ditch Witch of Virginia, Ditch Witch Northwest, Ditch Witch of Oklahoma & Arkansas and Ditch Witch Sales of Michigan.





Jason Andringa

Mary Andringa

Vermeer names president, board chair

Vermeer Corp. named third-generation family member Jason Andringa company president and chief executive officer. Mary Andringa, president and CEO, will transition to board chair. Board chairman Bob Vermeer will serve as chair emeritus.

Doosan restores 100th air compressor

Doosan Portable Power's certified remanufacturing program restored its 100th air compressor. The program enables customers to sell their used compressor to Doosan for resale or retain ownership of the remanufactured unit. Doosan air compressors or units originally manufactured by Ingersoll Rand with a capacity greater than 750 cfm are eligible for the program.

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World Health Organization talk slated for WWETT Show

Since the Ebola virus outbreak in West Africa hit the headlines, many in the wastewater industry have asked about the potential for a variety of communicable diseases to spread through the pumping, transport and handling of septage and sludges containing human waste. Attendees at the 2015 Water & Wastewater Equipment, Treatment & Transport (WWETT) Show will hear the latest information on the topic from a World Health Organization (WHO) official.

Dr. Adrianus Vlugman, WHO senior advisor on water, sanitation and environmental health, will speak Feb. 26 at 1 p.m. in Rooms 133-135 at the Indiana Convention Center as part of an extensive series of WWETT Show speakers and seminars. The talk on the transfer of communicable diseases is free and open to all attendees.

Vlugman will provide a general overview covering the survival and life expectancy of communicable diseases in water and wastewater. Among other topics, he will cover:

- Safety precautions to consider when handling water and wastewater in developing nations.
- The likelihood of communicable diseases to be spread or passed through both centralized wastewater plants and decentralized onsite wastewater systems.
- Whether there is a concern for the spread of communicable diseases through land application of properly treated sewage, biosolids or septage.

If you would like to attend the WHO program, fill out the online registration form at www.wwettshow.com/who. \checkmark

IT HAS TO BE





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A BUSINESS EXPLOSION THE RIGHT TOOLS. THE RIGHT TOOLS. THE RIGHT TOOLS. THE RIGHT MARKETS AND A STRONG WORK

THE RIGHT TOOLS, THE RIGHT MARKETS AND A STRONG WORK ETHIC HELPED WISCONSIN-BASED JK TRENCHING GROW QUICKLY FROM A PART-TIME VENTURE TO A THRIVING FULL-TIME ENTERPRISE

STORY: CORY DELLENBACH PHOTOS: COREY WILSON

What was meant to be a side job is now full time for brothers Keith and Jeff Newhouse, who operate JK Trenching in Freedom, Wis.

"Business has been excellent," Keith Newhouse says. "The last couple of years were a little bit slow, but this year [2014] it just seems like someone flipped the switch, and we can't even keep up. It's just been crazy this year."

During the summer, JK Trenching — with a crew of just Jeff, Keith and their dad Vernon — stays busy by providing trenching, vacuum excavation and horizontal drilling.

"All of our jobs have unique challenges," Newhouse says. "I really can't think of one job that stands out as much more difficult than others."

Between electrical and drainage work, the company stays busy all year, though spring and fall are the busiest seasons. "Those two services are pretty much what we're into right now," Newhouse says. "We're real busy in the spring. We get backlogged and then in the summertime we get caught up on it. Then in the fall the phone rings off the hook again, so we work until it freezes."

Drainage work is abundant because there are plenty of wet yards and fields after the winter thaw and spring rains. Spring — before planting — is also a good time for farmers to install drainage systems.

"Everyone wants their yards done and fixed right away," Newhouse says. "In the summertime no one wants to wreck their yards because they're having parties, the kids are out playing and crops are growing in the fields."

Most of JK Trenching's work has been drainage-related, and that has been expanding to more field-tile — an agriculture practice that removes excess water from the soil subsurface by way of buried plastic or clay perforated pipes.

"Six or seven years ago we were all hard pipe, PVC

Freedom, V	Vis.
OWNERS:	Jeff and Keith Newhouse
SERVICE AREA:	All of Wisconsin, but primarily northeastern Wisconsin
SERVICES:	Trenching, horizontal drilling, vacuum excavation, snow plowing, barn stall cleaning
WEBSITE:	www.jktrenching.com

JK Trenching

pipe," Newhouse says. "We used to do a lot of downspout areas when we started the business, but we've since diversified. My brother and I were raised on a dairy farm and we're very familiar with how a drain tile works and how to lay everything out. My dad loves going out and working with drainage and anything related. Ditches, that's his niche. He actually loves it."

JK Trenching will not tile an entire farm field. Instead, the company installs 500 to 1,000 feet of tile in a portion of the field. That creates a competitive niche because, according to Newhouse, big trenching companies don't want to haul semi-loads of heavy equipment and supplies for just 1,000 feet of tile work.

"We try to keep everything we own to the size where we can pull it with a pickup truck," Newhouse says. "We don't want to get real big excavators or anything like that because then you start drawing a line with cost." Newhouse also likes that he can easily pull in and out of driveways and get around the small neighborhoods, common in northeast Wisconsin.

STARTING SMALL

Newhouse started JK Trenching shortly after 1996 when he graduated from high school. He and his brother lived near a rental yard that rented out small walk-along trenchers. Keith's brother Jeff saw an opportunity and approached him with the idea to start a service company focused on trench work, but Keith was hesitant.

"After about another six months, someone I knew rented one of the machines and I helped him do the job," Newhouse says. He was impressed with the machine and how it worked and that changed his mind about starting a trenching business.

Newhouse talked with his brother again and the two decided to put the plan into motion. They went to the Ditch Witch retailer in nearby Kaukauna to look for another compact trencher.

Ditch Witch provided useful advice, telling the brothers that if they were serious about trenching they would want more than small walk-along trenchers in their inventory. Keith Newhouse, co-owner of JK Trenching, readies the power washing wand of the VacStar 500 as the company digs a trench to install drain tile at a residential home in Freedom, Wis.

"I DO THINK THE WAVE OF THE FUTURE IS GOING TRENCHLESS."

Keith Newhouse





"THE LAST COUPLE OF YEARS WERE A LITTLE BIT SLOW, BUT THIS YEAR [2014] **IT JUST SEEMS LIKE SOMEONE** FLIPPED THE SWITCH, AND WE CAN'T EVEN KEEP UP. IT'S JUST BEEN CRAZY THIS YEAR." Keith Newhouse

ABOVE: The crew at JK Trenching includes, from left, co-owner Keith Newhouse, his father Vernon Newhouse, and his brother and co-owner Jeff Newhouse. In the foreground is their Ditch Witch tractor trencher. The company's VacStar 500 high-pressure washer is shown in the background. LEFT: Keith Newhouse, left, uncoils the VacStar 500 vacuum hose for his brother Jeff Newhouse as they begin to remove dirt from a trench.

"They said I should go with a bigger machine because of the problems we were going to run into," Newhouse says. In the end, the two purchased another walk-along — an 1820 Ditch Witch — and they haven't stopped buying since.

"We landed a contract in 2002 at a large company, and we bought a bunch of equipment to fulfill that contract," Newhouse says. "That's where we've been ever since, just buying equipment when we need it. We rent equipment when we don't have it and we never say no to anyone who has a job."

Added to their fleet of trenchers is a Ditch Witch 3610 tractor trencher. The four-wheel-drive machine, with a trencher on one end and an excavator bucket on the other, makes moving around on farm fields much easier.

"I love the power and the reliability of the machine," Newhouse says.

Of all the company's equipment, the 3610 gets the most use. Other machines include a John Deere mini-excavator and VacStar 500 vacuum for excavation.

They use the trailer-mounted VacStar unit with a 500-gallon spoil tank



Jeff Newhouse carries line locating equipment they use on every job.

primarily for working around buried utility lines. "If we get to a job and there are five, six, seven lines to cross, we'll expose them and that saves us time on that job," Newhouse says.

ROOM FOR GROWTH

While the brothers don't advertise statewide, they have worked in other parts of the state. They will travel to wherever a customer is willing to pay for them to go.

"I'm hoping that within the next four or five years we can actually get a couple more employees," Newhouse says. "But the economy has to stay like it is right now in order for that to happen."

JK Trenching has found that the best advertising comes from word of mouth.

"It took us a long time to get established, but now people are remem-

bering the name," Newhouse says. "We do a lot of drainage work for residential customers when backyards are wet. If you can fix it and it makes them happy, they'll spread that around. That's the best kind of client."

JK Trenching isn't there yet, but Newhouse knows what could be the next big opportunity for his company — directional drilling.

Currently JK Trenching only does horizontal drilling with open trenches using a Roto Witch tool from Ditch Witch. The tool, which resembles a small drill, attaches to the end of 10-foot-long pipes that can reach into where the drilling will take place. The pipes and the Roto Witch attach to one of the com-



Locating saves steps and cost

One tool JK Trenching uses the most isn't a trencher, a vacuum or a mini-excavator. It's a Ditch Witch 950R/T locator.

"We can locate anything that conducts," co-owner Keith Newhouse says.

The 950R/T locates buried telephone, CATV, power, gas and water lines. In active mode, it transmits via direct-line connection, induction clamp or induced broadcast signals. In passive mode, the receiver detects signals generated by 31 kHz (CATV) and 50/60 Hz power, as well as re-radiated radio frequencies. In beacon mode, it detects signals from optional beacons to locate nonmetallic service lines.

JK Trenching purchased the device in 2002 when the owners realized they needed one for all the horizontal drilling work they were doing for electrical contractors.

"We were going underneath driveways and sidewalks and small roadways," Newhouse says. "The main reason we bought the equipment was to locate the depth consistency of our bores."

Now they use the 950R/T for more than that,

and it goes with them whenever they do a job or an estimate.

"We start looking around the yard to see what we need to cross and how much time it is going to take," Newhouse says. "We pull it out and hook up to the gas line, the phone line, cable line, whatever, to get an idea of how deep it is and what we'll have to do to cross it, because that fluctuates the bid."

Customers notice the extra effort. "I think it shows that we actually care and that we're not just out there to inflate the bid. We're trying to keep the cost down for them," Newhouse says.

The 950R/T offers simultaneous 8 and 29 kHz transmission, so an alternate signal is available if one is hard to detect. An 80 kHz signal is also available, and that is helpful in locating old tracer wires and pipes with insulators. The locator also comes with a backlit LCD that offers visibility in low-light conditions.

"We couldn't do what we do without it," Newhouse says. "It's a necessity you have to have."

pany's trenchers and the machine cranks the drill head.

"It's nondirectional, so basically we just point and shoot," Newhouse says. "We'll do 75 to 100 foot runs pretty consistently."

The tool comes with several attachments including different drill bits for each scenario — sand, compaction, frost and rocks. It also comes with a drill stem guide, connector shafts to connect more pipes to it and pipe-pulling adapters.

Newhouse uses the Roto Witch primarily when working for electrical contractors and needs to get underneath roadways, driveways and sidewalks

"I LOOK BACK AT MY RECORD BOOKS FROM WHEN WE FIRST STARTED, AND I'M THINKING 'THAT'S CRAZY' FOR WHAT I DID AND WHAT I GOT PAID."

Keith Newhouse

without tearing them up. He would like to upgrade to a directional drill to be able to change directions during the drill.

"I think we can get more work out of it," Newhouse says. "The problem with directional drilling is you have to feel comfortable with it. I like open trenches because if you hit tile lines, if you hit sewer lines or anything like that, you see what you hit."

Despite that one concern, Newhouse knows his company will eventually have to take on directional drilling.

"I do think the wave of the future is going trenchless," Newhouse says.

Newhouse is surprised at how far his company has come from the early years of doing small jobs for little money.

"We definitely grew, probably a lot faster than I anticipated. I look back at my record books from when we first started, and I'm thinking "That's crazy' for what I did and what I got paid. We still do those small jobs, but we have so many bigger jobs now too." **•**

Featured products from:

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Saving Fuel With Technology

GPS AND OTHER INNOVATIONS, INCLUDING WIRELESS FUEL-DATA MANAGEMENT, CAN HELP SERVICE CONTRACTORS MAKE A DENT IN FLEET OPERATING COSTS

BY JACK LEE

ervice contractors wear many hats. A typical cleaning business owner manages people, resources, equipment, timelines, budgets and more. Larger service businesses may have general managers, human resource managers, equipment managers and fleet or operations managers, but almost none have fuel managers. Perhaps that isn't surprising, but as prices have risen, fuel has consumed a higher share of operating expenses.

Without effective fuel management, a company can waste a substantial amount of money every month. Fuel is just like any other expense: You can control it only if you first measure it, and then use the information as a basis for changing operating practices. The first thing you need is access to the necessary information.

The good news is that you don't have to hire a fuel manager: Technology can help you handle that job. Good fuel management includes planning routes efficiently, measuring fuel consumption and managing equipment operating practices.

VIA SATELLITE

First, you can add a GPS unit to all your fleet vehicles. For a modest expense, you can put billions of dollars worth of technology to work to help plan and track your fleet's daily travel. GPS — or Global Positioning System — employs 27 Earth-orbiting satellites that were developed by the U.S. military.

YOUR BUSINESS CAN'T CONTROL THE COST OF FUEL, BUT **YOU CAN CONTROL HOW MUCH YOU CONSUME.** WHEN YOU MEASURE AND MANAGE YOUR FUEL EXPENSES, YOU CAN IMPROVE YOUR RETURN ON INVESTMENT IN FUEL.

Today, GPS is available for everybody in pocket-sized receivers that will find your exact position anywhere in the world. The system is ideal for planning travel routes, avoiding certain roads and reducing drive time. Less driving cuts fuel costs and GPS can track your total distance traveled. It can't directly track fuel consumption or what you have saved, but you can do that yourself using the data and simple math.

Now that you can minimize travel time with GPS, what about more important data directly related to fuel consumption? Newly available technology can show you exactly where all that fuel goes. Once you have that data, you're in a better position to manage fuel consumption.

WATCHING WIRELESSLY

Some on-site fuel providers use wireless systems to record fuel data — the amount and type of fuel pumped, the vehicle that received it, and the time and date. This data is then made available online so that on your computer you can see your entire fleet or each unit's fuel consumption by date or fuel type.

One such system actually lets users track docket data, price history and years of fuel data at no charge. This data lets managers compare fuel consumption from unit to unit and make decisions. Next is technology that

can help you gather and deliver key information about your fleet's fuel consumption and operating data. The latest advanced mobile asset management technology can record all refueling information and then deliver it via email to the desktop.

To collect the information, a wireless data capture chip about the size of a coin is attached to each piece of equipment for positive identification. Fuel and engine performance information is recorded, providing the data needed for effective fuel management.

Even more valuable is software that can help managers analyze key operating information, such as excessive idling, speeding, aggressive acceleration and improper vehicle maintenance. Inefficient driving habits waste the most

> fuel. With this data, you can identify those who are not driving responsibly and work with them to change their habits. By setting thresholds for each category and comparing each unit's performance, you can manage driving habits to deliver the best possible fuel efficiency.

ATTRACTIVE RETURNS

Your business can't control the cost of fuel, but you can control how much you consume. When you measure and manage your fuel expenses, you can improve your return on investment in fuel.

When you improve fuel economy in each vehicle month over month by managing exceptions to your set thresholds, and when you record odometer readings, transaction volumes and related fuel costs, you can calculate the actual return on investment for every gallon of fuel you buy.

In a case study completed by Natural Resources Canada, differences of up to 12 liters per 100 kilometers (3.2 gallons in 62 miles) were identified between a company's most and least fuel-efficient drivers. In fact, poor driving habits can consume up to 35 percent more fuel. Using technology can help you measure and manage fuel consumption and could save you thousands of dollars.

ABOUT THE AUTHOR

Jack Lee is the founder of 4Refuel Inc., a provider of fuel management technology. For more on 4Refuel Inc. go to www.4refuel.com. \checkmark

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Liquid Waste Industries, Inc Liquid Waste Technology LLC LMK Technologies LMT Inc. Lock America Inc locaus Lodar Ltd. Logan Clutch Corporation Logiball. Inc. Longhorn Tank & Trailer, Inc. Ludwig Pfeiffer Hoch- und Tiefbau MacQueen Fauipment Madewell Products Corporation Mailhot Industries Mainline Backflow Products. Inc. Manitex Sabre Masport, Inc. Masterliner Incorporated Material Motion, Inc. MaxLiner USA McLaughlin Group, Inc. Medit Inc. Meese Orbitron Dunne Co. Merrell Bros., Inc. Mi-T-Machine Mid-State Tank Co., Inc. Miller Pipeline Millner-Haufen Tool Company Milwaukee Pump Milwaukee Rubber Products, Inc. Mobile Restroom Designs Money In Motion MONÓFORM by Infratech Moro USA Inc. Mr. Rooter MTC MTech Mud Technology International, Inc. Murphy by Enovation Controls MyTana Mfg. Company, Inc. NASSCO, Inc. National Precast Concrete Assoc National Truck Center National Vacuum Fauipment, Inc. Nature Calls Netofim USA Nexstar Network, Inc. NLB Corp. Northeast Industrial Mfa Norweco, Inc. NovaFlex Hose NozzTeq, Inc. NSF International Nu Flow Oakmont Capital Services, LLC Oceanquip Cables, LLC Ohio Electric Control, Inc Omega Liquid Waste Solutions OMSI Transmissions. Inc. One Biotechnology Orenco Systems, Inc Otto Trading Inc. PA S.p.A. Parson Environmental Products, Inc. Pat's Pump & Blower PC Scale, Inc. Pearpoint/SPX Peinemann Equipment

Penn Valley Pump Co., Inc. Penny Pockets Pentair Flow Technologies People's United Equipment Perma-Liner Industries, LLC Petersen Products Co Petrofield Industries Phoenix USA Inc. Picote Solutions Pik Rite, Inc. Pipe Lining Supply, Inc. PipeHunter, Inc Pipeline Renewal Technologies PipeLogix, Inc. PineTech Software Piranha Hose Products Plug-It Products Polston Applied Technologies Poly-Flow, LLC PolyJohn Enterprises, Inc Polylok, Inc. / Zabel PolyPortables, LLC Portable Sanitation Association Int. POSM Software Pow-r Mole Sales LLC PowerTrack International, Inc. Premier Oilfield Equipment Premier Tech Aqua Presby Environmental, Inc. Pressure Lift Corporation Presvac Systems PRIME DRILLING GmbH Prime Resins Primeline Products Inc Progress Tank Proline Group AB Pronal-USA Inc ProPulse, A Schieffer Company Protective Liner Systems PSI Pressure Systems Corp Pumptec Inc. Qingdao Donghengli Industy Quadex/Interfit Quik-Lining Systems, Inc. R. Nesbit Portable Toilets Radiodetection Corporation Rain for Rent RapidView IBAK North America Rotech Flectronics, Ltd. Rausch USA Ravo Sweepers RC Industries. Inc RCS II. Inc. RecoverE Reed Manufacturing Co. Reelcraft Industries, Inc. Refractron Reline America. Inc Renssi Resiplast US, Inc. Review Buzz RH20 North America Inc. Rich Specialty Trailers RIDGID® Ritam Technologies, LLC Ritec GmbH RKI Instruments Inc Robinson Vacuum Tanks

543 companies - list current as of December 1, 2014 ROBUSCHI USA RODDIF. Inc. Roeda Signs & ScreenTech Imaging Roll-Off Parts.com RootX Roth Global Plastics ROTHENBERGER LISA RotoSolutions, Inc. RouteOptix Inc. RS Technical Services, Inc. Rush Refuse Systems SAERTEX-multiCom Safety Sewer Drain Salcor Inc Satellite Industries Sauereisen, Inc. Savatech Corp. SchellVac Equipment Inc. Scorpion Protective Coatings Screenco Systems LLC Sealina Systems, Inc. SECO Truck Inc. See Water Inc. Sentic Maxx 110 Septic Products, Inc. Septic Services, Inc Septronics. Inc. Service Roundtable ServiceTitan Sewer Fouinment Shamrock Pipe Tools, Inc Shenzhen Schroder Ind. Sherwin-Williams Shubee Sim/Tech Filter Inc SIF-Rhomhus® Slew Master, Inc. Slide-In Warehouse SludgeHammer Group, 1td Snakel iner Solar LED Innovations Sonetics Source One Environmental Southland Tool Mfg. Inc. Spartan Tool, LLC Specialty B Sales Splendor Fiberglass . Stamp Works Standard Fauipment Company Statewide Supply StoneAge, Inc. Sturgeon Tank & Equipment Stutes Enterprise Systems SubSurface Instruments Sugino Corp. Sunbelt Rentals Sunrise Environmental Scientific Super Products LLC Superior Signal Company LLC Supervac 2000 Surco® Portable Sanitation Products Surpresseur 4S Inc. SVE Portable Roadway Systems, Inc T&T Tools, Inc. t4 Spatial Tank Track LLC Tank Transport Trader TCF Equipment Finance. Inc.

Tervdon Inc The Strong Company, Inc Thieman Tailgates, Inc. Thompson Pump TOPP Industries. Inc Trade-Serve Trans Lease, Inc Transway Systems Inc Trelleborg Pipe Seals Milford Inc. Tremcar Inc TRIC Tools, Inc Trillium Industrial Services TRY TEK Machine Works, Inc. TT Technologies, Inc. Tuf-Tite Inc. TURBO FOG UDOR U.S.A UEMSI UHRIG Kanaltechnik GmbH Ultra Shore UltraLav by Wells Carao Uncle Freddie's Super Gloves Under Pressure Systems, Inc. US Fleet Trackina US Jetting, LLC USABlueBook USB - Sewer Equipment Corporation Vac-Con, Inc. Vac2Go, LLC Vacall - Gradall Industries Vactor Manufacturing Vacutrux Limited Vacuum Sales, Inc. Vacuum Truck Rentals Vaporooter VARCo Vermeer Veyance Technologies, Inc. Vivox-Metrotech Corn Vogelsang VT Hackney Vu-Rite Video Inspection Systems Wager Company Inc. Walex Products Company, Inc. Wallenstein Vacuum Pumps Wastequip WasteWater Education 501 (c) 3 Water Environment Federation Waterblasting Technologies WC Leasing Weber Industries Wee Engineer, Inc. Wells Farao Western Equipment Finance Western Mule Cranes (D&S Sales) Westmoor Ltd. Whirlygig, Inc. Wiedemann & Reichhardt GmbH Wieser Concrete Products. Inc. Wohler USA, Inc. Zhejiang Danau Industries Ltd. Zoeller Pump Company



Education Day Sessions

Monday, February 23, 2015

NAWT

National Association of Wastewater Technicians Room 234-236

8 a.m.	Pre-Trip Inspections
9:30 a.m.	Hours of Service (HOS) Overview
11 a.m.	Roadside Inspections
1:30 p.m.	Environmental Impact Study: Effects of
	Water Softener on Septic Tank Performance
3 p.m.	A Study of Microbiological Induced Corrosion
4:30 p.m.	Ask the Expert Q & A

WJTA-IMCA

Water Jet Technology Association Industrial Municipal Cleaning Association Room 140-142

8 a.m.	Hydroexcavation — Tools to Stay Current
	in a Changing Marketplace
9:30 a.m.	Maximizing Productivity on Vacuum/
	Air Mover Projects
11 a.m.	Waterblast Safety Can Enhance Productivity,
	Quality and Profits!

SSCSC

Southern Section Collection Systems Committee Room 231-233

8 a.m.	Combination Vacuum Unit Operation Overview
9:30 a.m.	Been There, Done That, Got The T-Shirt
	(Small Business From a Hands-on Perspective)
11 a.m.	So You Think You Are the Best?
	CCTV Inspection In Its Highest Form
1:30 p.m.	Avoid the Pitfalls — Trenchless Pipeline Repair
100	and Renewal
3 p.m.	NOZZLES, NOZZLES, NOZZLES!
4:30 p.m.	Ask the Experts Q & A

SSPMA

Sump and Sewage Pump Manufacturers Association Room 243-245

1:30 p.m.	Sizing Guidelines for New or
	Replacement Sewage Pumps
3 p.m.	Backup Battery and Combination Pump Systems
i	Evaluation and Installation
4:30 p.m.	Specifying Pumps: Why Do Pumps Fail?

NASSCO

National Association of Sewer Service Companies Room 130-132

8 a.m.	Overview of Manhole Rehabilitation Technologies
9:30 a.m.	When, Why and How to Defeat
	Infiltration Cost Effectively
11 a.m.	New Opportunities in Small-Pipe Relining
	and Reinstatement
1:30 p.m.	Pipeline cleaning Best Practices
3 p.m.	Large-Diameter Pipe and Drain Rehabilitation
-	Technologies
4:30 p.m.	Ask the Experts Q & A

NEHA

National Environmental Health Association Room 237-239

8 a.m.	New Technologies for Non-Potable Water Use
9:30 a.m.	Rules & Regulations with New Technologies
	and Working with Regulators
11 a.m.	New Technologies for Non-Potable Water Use Part 2
1:30 p.m.	OSHA Regulations and Smart Business
3 p.m.	Sales & Marketing with New Technologies
4:30 p.m.	Ask the Experts Q & A

NOWRA

National Onsite Wastewater Recycling Association Room 240-242

a.m.	Lobbying
:30 a.m.	Field Inspections Part One
l a.m.	Field Inspections Part Two
:30 p.m.	Septic Tank Safety — Lethal Lids
p.m.	Time Dosing
:30 p.m.	Ask the Experts Q & A

You can view the complete schedule of events along with an exhibitor list, floor plan, travel information and everything else you'll need to plan your trip to Indy at WWett.com

Portable Restroom Track

Beverly Lewis Room 243-245

8

8 a.m.	Mastering the Busy Season
9:30 a.m.	A Great Customer Experience
11 a.m.	Employee Retention and Recruitment

Business Track

Kelly Newcomb, Ellen Rohr, Women's Roundtable Room 136-138

8 a.m.	Grow or Go! Why Most Companies Fail to Grow
	Effectively and What You Can Do to Keep
	Your Company From Failing
9:30 a.m.	Target Marketing: How to Effectively and
	Efficiently Grow Your Sales
11 a.m.	Effective Branding and How it Can Help Your Business
1:30 p.m.	Business Basics 101
3 p.m.	Build the Business You REALLY Want
4:30 p.m.	Women in Wastewater Roundtable Discussion

Gil Longwell Room 140-142

1:30 p.m. Protecting Private Enterprise

Mark Susan Chin Room 1	eting Track 33-135
8 a.m.	Ladies and Gentleman: Create Your Personal Brand
9:30 a.m.	and Strategic Network for Success in 5 Easy Steps Effective Website Design and Engaging
	Customers in the Digital Age
11 a.m.	Tapping into the Power of Social Media and
	Content Marketing
Road	Rules & Safety Track

John Conley Room 133-135

1:30 p.m.	A Trucker's Guide to Washington Speak
3 p.m.	Cargo Tank Safety and Regulatory Report
4:30 p.m.	Compliance with Part 180 and Preparing for
	a Tank Truck CT Shop Audit

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Tuesday Sessions

Detailed session information available at: wwett.com

February 24, 2015

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Room 234-236

8 a.m.	Septage Processing Introduction:
	Working with an Engineer
9:30 a.m.	Analyzing Your Resources:
	What Goes on Around You is Important!
11 a.m.	Introduction to Odor Control

Onsite Installer Track Room 231-233

8 a.m.	Soils, Design, O&M: What Every Installer
	Should Know
9:30 a.m.	Best Installation Practices for Trauble-Free Pump Controls
11 a.m.	introduction to ettilient filters

*MSW Track

Room 237-239

THE

8 a.m.	Mapping Solutions for Repair and
	Maintenance of Water Distribution Systems
9:30 a.m.	The Shift from Reactive to Proactive
	Wastewater Management Best Practices
11 a.m.	Why Hasn't Your Sewer System Evaluation
	Survey Testing Worked?

*MSW - Municipal Sewer & Water

Treatment Plant Operator Track

Room 240-242

8 a.m.	An Emerging Technology for Lagoon-Based
	Nutrient Removal
9:30 a.m.	The New Wastewater: Collection System
	Challenges Caused by Today's Modern Trash
11 a.m.	Wastewater Microbiology

Industry Safety Track Room 243-245

New Trends and Technology in Equipment
for Excavation Safety
Best Practices: Use, Care and Repair of
High-Pressure Sewer Cleaning Hose
Development and Execution of a Cross-Bore
Prevention Program

Business Track Room 130-132

3 a.m.	How to Position Your Company in the Market Today
9:30 a.m.	Six Proven Tactics to Generate Leads and
	Turn Them Into Revenue
1 a.m.	Growth by Acquisition or Exiting Gracefully:
	Buying or Selling a Septic or Sewer Business

Drain Cleaning Track Room 133-135

8 a.m.	Drain Cleaning Methods - Then and Now
9:30 a.m.	The Physics of Pipe Cleaning Tools and
	How I Make it Work for Me
11 a.m.	Lateral Lining — Are You Using the Right Tool?

Industry Technology Track

Room 136-138

8 a.m.	How to Manage Septic Systems
	using Remote Monitoring
9:30 a.m.	GPS Tracking: Hype Vs. Reality
11 a.m.	Wireless Controls in the Waterjet Industry:
	Sacrificing Safety for Convenience

Septic Series Track Room 140-142

8 a.m.	True Crime Scene Stories: How to Inspect
	and Troubleshoot Suspect Onsite Systems
9:30 a.m.	One Man's Waste is Another Man's Treasure
11 a.m.	Dewatering Options for Roll-Off Containers

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*Complete contest rules and details at: wwett.com/rules

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Wednesday Sessions

Detailed session information available at: wwett.com

February 25, 2015

Septic Series Track Room 140-142

8 a.m.	Considerations in Building Your Next Vacuum Truck
9:30 a.m.	Grease Collection and Treatment:
	Raising the Bar Via Resource Recovery
11 a.m.	Analyzing Common Onsite Septic System
	Malfunctions and Options for Prevention & Correction

*MSW Case Study Track Room 231-233

8 a.m.	Retrofit of the Lansdowne Sanitary P/S
9:30 a.m.	Huntington Beach Successfully Navigates
	Emergency Repair of Fragile Storm Drain
11 a.m.	Collection System Rehabilitation —
	Alternative Technology

*MSW Technology Track

Room 237-239

8 a.m.	Implementation of Acoustic Inspection Technology
	at the City of Augusta
9:30 a.m.	Highlights from the 7th Edition of Operation
	and Maintenance of Wastewater Collection
	Systems Manual
11 a.m.	Technological Advancements Fulfill the
	Promise of Zoom Survey Paradigm

*MSW - Municipal Sewer & Water

Portable Sanitation Track

Room 136-138

3 a.m.	Portable Sanitation - Special Events
9:30 a.m.	Making Your Portable Restroom Business Lean
	and Mean — How to Boost Productivity and
	Increase Your Bottom Line
1 a.m.	T.B.D.

Treatment Plant Operator Track

Room 240-242

a.m.	Utility Regulation Basics for Grease Haulers
:30 a.m.	The Waste in Our Wastewater
1 a.m.	Security Issues and Best Practices for Water/
	Wastewater Facilities

Pipe Rehab Track Room 243-245

8 a.m.	Integrating Temperature Sensor Technology within Lateral Pipeline CIPP Installations
9:30 a.m.	CIPP Calibration and Vacuuming
11 a.m.	Extending Life Expectancies with Corrosion-
	Resistant Coatings and Linings

Business Track

Room 133-135

8 a.m.	Team Building for Profit	
9:30 a.m.	Ten Commonsense Ways to Grow and	
	Improve Your Business	
11 a.m.	Setting Expectations — The Key to Sales	
	and Customer Satisfaction	

Advanced Onsite Installer Course

Room 234-236 8 a.m. - 5 p.m.

- Introduction and Site Evaluation
- System Sizing and Basic Design Principles
- Pumping to Systems
- Installations of ATUs
- Installing for Management
- Troubleshooting Systems

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Circle in a Spiral

AN OHIO SUBCONTRACTOR TACKLES A HYDROEXCAVATION JOB ON NATURAL GAS LINES THAT SNOWBALLS IN COMPLEXITY

BY SCOTTIE DAYTON

n annual survey of highpressure gas transmission mains by a local utility near Cincinnati pinpointed anomalies on the premises of the natural gas plant. Its maintenance policy allowed only vacuum excavation to avoid damaging the vast number of underground pipes while exposing them for visual inspection.

The plant's pipeline integrity contractor had trailer-mounted hydroexcavation units, but using them would take too long to remove the anticipated volume of material. Seeking a full-size machine, he hired Tele-Vac Environmental of Mason, Ohio.

"We've worked together before," says hydroexcavation manager Alex DuDeVoire. "Our responsibilities were to dig two standard 5- by 10- by 8- or 9-foot-deep trenches, expose the anomalies and make the pits safe for entry. We figured one to two weeks max on the job." Instead, undocumented pipes, soil flows, rain and a near cave-in stretched the project to almost four weeks.



WORK ZONE

The anomalies appeared near the compressor station's concrete substructure, which resembled a basement with a flat roof 2 feet above grade. Inflow and outflow pipes ran above the substructure and through it. Work began on the outflow side, which had the most anomalies.

Shamus Ridner and Chris Distler parked the 2013 HXX hydroexcavator (Vactor Manufacturing) 20 feet away. Distler operated the truck, which has a 12-cubic-yard debris body, 5,250 cfm/28-inch Hg Hibon 8702 TriLobe blower and a 1,300-gallon/20 gpm water system.

The men used Monro-Jet rotating nozzles (NozzTeq) and 10 gpm at 2,500 psi to open the trench. Their first challenge was not to damage the coating on the above-ground piping as they worked from the substructure back. Soils were compacted hard clay and rock for 3 to 4 feet, then sand and pea gravel backfill.

"The loose material kept falling out, threatening to undermine the side-

walls of the ditch," says DuDeVoire. "If the heavy material collapsed on the transmission mains, it would damage the coating."

The farther back the men dug to uncover a pipe, the more undocumented lines they found with potential coating issues. "The GC said to expose all of them," says DuDeVoire.

WHILE YOU'RE HERE

The jungle gym of pipes made it difficult for the pair to enter the trench, to work without damaging coatings and to clean 1 to 2 feet below lines to facilitate inspection and repairs. The congestion also made it impossible to insert shoring boxes. Ridner and Distler used shoring boards instead, but even they had to be pulled up to enlarge the hole as more problem pipes emerged. The trench eventually reached 50 feet long and 12 feet wide.



Shoring board braces add to the congestion in the inflow trench.

Soil flows prevented shoring one end of the pit, so the men sloped back, tapering the width to 10 feet. "It's very difficult to excavate OSHA-compliant slopes and benching with pressurized water," says DuDeVoire. "Shamus and Chris deserve a lot of credit for making everything as safe as possible for the people who will spend days working in those trenches."

Just as the outflow trench work was almost done, the client requested exposing the piping coming out of the ground on that side. "It became a never-ending project where we started one thing and they kept adding to it," says DuDeVoire. "However, as long as we're there, we'll do anything customers require to keep them happy and complete the job."

Ridner and Distler excavated 12 inches around the pipes and down 3 feet to the concrete footers supporting them. Before leaving the trench, they laid pallets where possible or poured in pea gravel to form a floor for the inspection and coating contractors.



Chris Distler (left) and Shamus Ridner from Tele-Vac Environmental jet a section of the inflow trench.



The beginning section of the 50-foot-long outflow trench with its maze of piping and shoring board braces.

MORE WRINKLES

Excavation at the inflow trench duplicated work at the first pit until the men exposed a broken 4-inch PVC pipe. It drained stormwater from part of the property and the discharge from a sump pump in the compressor station.

"The amount of water draining from the pipe impeded progress," says DuDeVoire. "Then major storms struck over two weekends. On the following Mondays, Shamus and Chris found 2 or 3 feet of water in the trench and a lot of muck under the pipes."

They spent half the morning sucking up several thousand gallons of water and repeating the cleaning work accomplished the previous Friday. Distler dumped the material on site. Finally, a contractor spliced in a new length of pipe after Ridner cleaned the exterior of the broken line.

As excavation neared a service road, soil flow began to undermine it. The men switched their attention to other extemporaneous projects while waiting for a contractor to cut out that section of road to prevent it from collapsing onto high-pressure gas mains.

The inflow trench reached 45 feet long and tapered from 12 feet to 10 feet wide at the slope back. Twice daily, Distler emptied the truck on site, eventually off-loading 360 cubic yards. After the material dried somewhat, the general contractor removed it. To date, contractors have inspected and repaired all anomalies at the gas plant. \checkmark

THE LATEST: Products



1. General Pipe Cleaners Gen-Eye SD video inspection system

The Gen-Eye SD video inspection system from General Pipe Cleaners has a 10.4-inch LCD screen, built-in waterproof keyboard, integral SD recorder and heavy-duty Pelican case. Weighing 10 pounds, the inspection system can troubleshoot 3- to 10-inch lines with the docking arm mounted to a full-size reel or 2- to 4-inch lines using a mini reel. **800/245-6200; www.drainbrain.com.**

2. McElroy socket fusion tool

The 15-pound Spider 125 socket fusion tool with universal clamping from McElroy Manufacturing is designed for polypropylene pipe installation in overhead, vertical and tight work spaces. The clamping feature eliminates the need for inserts. An assortment of heaters and heater adapters for 63 to 125 mm (2.48 to 4.92 inches) diameter pipes are available. **918/836-8611; www.mcelroy.com/fusion.**

3. Ideal multipurpose hole saws

Tri-Bore multipurpose hole saws from Ideal Industries feature tungsten carbide teeth for ultra-aggressive cutting through wood and metal. **800/435-0705; www.idealindustries.com.**

4. Esco pipe beveling tool

Millhog pneumatic pipe beveling tools from Esco are I.D. clamping and feature a rigid blade lock system with TiN coated T-15 tool steel cutter blades. The tools are available for pipe from 1.5 up to 36 inches O.D. and pull a thick chip without cutting oils. The Prepzilla Millhog is designed for 1.5- to 8.625-inch O.D. pipe and is available with an electric motor. **508/359-4311; www.escotool.com.**

5. Cat Pumps mobile phone product app

The mobile app for iOS/Apple and Android smartphones from the Cat Pumps website enables users to find product and technical information, size and select pumps and accessories, and convert flow, pressure, volume, temperature, torque, length and area to the needed units. The app can be used to calculate flow rate, horsepower, rpm, pump and motor pulley diameters.

763/780-5440; www.catpumps.com.

6. Cobra Technologies sonar/video systems

Single Cable sonar/video systems from Cobra Technologies are designed for large-diameter pipeline inspections using a single cable up to 6,000 feet in length. Systems can be mounted on floats or large crawler-based platforms for use in 12-inch to 200-inch diameters. The sonar sediment report provides a graph, indicating the volume of sediment, highest level of sediment and the percentage of sediment blockage for all pipeline segments observed (captured) during inspection. **800/443-3761; www.cobratec.com.**

7. Guardair Air-Spade 2000 excavation tool

The Air-Spade 2000 excavation tool from Guardair Corp. is designed for the safe excavation of objects underground. The tool is available in models ranging from 25 to 225 cfm at 90 psi, as well as 3- and 4-foot barrel lengths. Features include dead-man trigger, fiberglass barrel with adjustable dirt shield, thermoplastic spray shield, stainless steel supersonic nozzle, 3/4-inch FNPT air inlet and Chicago-style swivel connector. **800/482-7324; www.guardaircorp.com.**

8. Global Glove disposable gloves

The PantherGuard line of high-tech disposable gloves from Global Glove & Safety Manufacturing is available in three styles. The 675PF is a 6 mil orange nitrile disposable with a long cuff. The 775PF is a 6 mil orange nitrile disposable in a regular length. Both styles have freeze-dried aloe that activates during use to moisturize cracked and chapped hands. The 800F is an 8 mil, black flock-lined long cuff disposable. The lining keeps hands warm in cold and absorbs perspiration in warm conditions. **763/450-0110; www.globalglove.com.**

9. John Deere Final Tier 4 excavators

G-Series model excavators from John Deere feature Final Tier 4 engines to meet the strictest emissions standards. The 250G LC has a 188 hp John Deere PowerTech PVS 6.8L engine, while the 350G LC and 380G LC have a John Deere PowerTech PSS 9.0L engine that delivers 271 hp. Diesel particulate filter cleaning occurs automatically and can go up to 15,000 hours before ash removal.

800/503-3373; www.johndeere.com.

10. FCS touch-screen leak detection correlator

The TriCorr Touch leak detection correlator from Fluid Conservation Systems works with acoustic leak noise sensors to identify and locate leaks in water distribution systems. Data gathered by the sensors pinpoints leaks without exploratory digging. The device's automated filter intelligence system runs 55 filter combinations on the correlation data. This allows the correlator to automatically check the quality of the results and adjust filter settings until the clearest and most accurate result is obtained. The VGA screen provides maximum visibility and easy data entry. **800/531-5465; www.fluidconservation.com.**

11. BAYCO multifunction LED flashlights

Nightstick multifunctional MT-200 Series Mini-TAC Pro flashlights from BAYCO Products are 4 to 5.5 inches long and weigh 1.9 to 3.2 ounces. Made of blue anodized aircraft-grade 6061-T6 aluminum, each flashlight (MT-200, MT-210, MT-220, MT-230) has a drop rating of 2 meters and waterproof rating of IPX7. All lights feature CREE LEDs with a deep parabolic reflector for a tight, long-throw beam. The flashlight body and tail switches provide momentary or constant-on functionality with high, medium or low settings, as well as strobe.

800/233-2155; www.baycoproducts.com.

12. Volvo Tier 4 Final crawler excavators

Tier 4 Final/Stage IV compliant EC250E and EC300E crawler excavators from Volvo Construction Equipment deliver 5 percent increased fuel efficiency over previous models and feature the Volvo ECO mode that automatically reduces fuel consumption without performance loss in most conditions. The integrated work mode system enables the operator to manually control flow to the hydraulics. E-Series options include automatic idling and auto engine shutdown that reduce engine speed to idle if the machine remains idle for a preset amount of time. 828/650-2000; www.volvo.com/constructionequipment.

13. Vermeer S3 Navigator horizontal directional drill

The D20x22 S3 Navigator horizontal directional drill from Vermeer features 19,550 pounds of thrust/pullback with 2,250 ft-lbs of torque. Powered by a 74 hp Deutz engine, the drill has a carriage speed of 167 feet per minute and can climb slopes and track at 3.3 mph. **888/837-6337; www.vermeer.com.**

Kiefer Manufacturing industrial flatbed trailer

Steel industrial flatbed trailers from Kiefer Manufacturing range from 8 through 53 feet and include heavy-duty GVW gooseneck, bumper pull and pintle hitch. Wiring is housed in a 10-mil polyester sleeve. The trailers feature a steel self-cleaning beavertail. Options include a popup center or hydraulic version. The hydraulic beavertail has an 8,000-pound lifting capacity. A straight-back style ramp is available. 888/254-3337; www.kiefermfg.com.

(continued)

This Month's Feature

Pneumatic piercing tools offer short-run option in congested locations

BY ED WODALSKI

Pneumatic piercing tools from **HammerHead Trenchless Equipment** are designed for creating a compact hole for most underground installations with minimal disruption to landscape, buildings or traffic flow. The newest tools in HammerHead's pneumatic line are 4- and 5.125-inch models with a Catamount reciprocating or a fixed, non-reciprocating head.

"The benefit of a pneumatic tool is it gives you an opportunity to do trenchless-type installations for a low purchase price," says Chris Alexander, southeast regional manager of piercing tools for HammerHead.

Available in a variety of sizes and models, the piercing tool can be used in diverse ground conditions and serviced in the field.

"The replaceable head tool was originally designed for softer soil conditions," he says. "The reciprocating head in the Catamount design is for harder soil conditions."

The new models feature the Power Port quarter-turn reverse design that pneumatically locks into forward or reverse, preventing accidental direction change during the bore.

"Basically, you can twist the hose a quarter of a turn without disconnecting it from the tool or the oiler," Alexander says. "After turning the air off, you twist it a quarter turn. That allows you to engage it in either forward or reverse. In addition to ease of use, it allows you to get more compression, so the blunt force is greater at the head of the tool."

Applications include the installation of sewer, water, gas, electric, fiber, irrigation and cable lines, especially for distances of 50 feet or less in urban areas where launch space is limited.



"An option

we offer is the Mole Track system for all of the replaceable head tools," he says. "It allows you to track depth

and location so you always know where it is if you're close to other utilities." The tool also features the Debris Free Tailcone that prevents debris from entering the piercing body for increased production and tool life. Wear rings eliminate metal-to-metal contact for decreased wear and greater sustained level of performance.

Alexander says as budgets become tighter, the piercing tool provides an economical alternative to directional drilling and can be viewed as a complement, depending on the application.

"Where you have a short shot or you're replacing a two-lane road, piercing tools are a more cost-effective way of doing that," he says. "When you're replacing 300 to 400 feet of service, a directional drill is a more appropriate application. It's getting the right tool for the job." **800/331-6653; www.hammerheadmole.com**

THE LATEST: Products



14. Miller digital power sources, interface control

The SubArc Digital Series of power sources, interface controls and accessories from Miller Electric Mfg. are designed to improve weld performance and simplify the integration of equipment in advanced applications. Features include easy setup and operation and improved flux delivery system. Models include the SubArc DC 650/800 digital, the SubArc DC 1000/1250 digital and the SubArc AV/DC 1000/1250 digital. Power sources have the ability to handle submerged arc and electroslag welding applications. **800/426-4553; www.millerwelds.com.**

15. KOHLER gaseous-fueled generators

The 50REZGT and 70REZGT gaseous-fueled generators from KOHLER Power Systems can switch between optional onboard LP fuel tanks and external LP liquid, LP gas or natural gas fuel sources. The 50REZGT (50 kVA) features a 4.3-liter naturally aspirated engine while the 70REZGT (70 kVA) features a 5.7-liter engine.

800/544-2444; www.kohlerpower.com.

16. RIDGID SeeSnake Mini inspection system

The SeeSnake Mini video inspection system from RIDGID has a selfleveling camera head and 200 feet of push cable for laterals and mainlines up to 8 inches in diameter. The 1.18-inch camera has 18 white LEDs. An integrated sonde is standard, broadcasting 512 Hz for above-ground camera location.

800/769-7743; www.ridgid.com.

17. Cummins low-emissions diesel generators

High-horsepower diesel generator sets from Cummins Power Generation are designed to meet EPA Tier 2 emissions regulations. Operating at 60 Hz, the generators are rated from 1,250 kW to 2,250 kW. They are seismic-certified in accordance with the IBC and are preapproved by California's OSHPD agency for ground and rooftop installations. The units accept full-rated load in a single step, as required by NFPA for Level 1 systems. **877/769-7669; www.power.cummins.com.**

18. Agru America concrete liners

Sure-Grip concrete liners from Agru America are designed for aggressive and abrasive media inside tanks, pipes and other structures. When combined with distance sheets, the protective liners meet requirements for storing environmentally hazardous media. Joined by ultrasonic welding, the space between the two sheets permits monitoring for leakage detection. The surface pattern also facilitates self-cleaning for reduced sedimentation.

800/373-2478; www.agruamerica.com.

19. Polston multipurpose cleaning truck

The PAT 360-HD multipurpose cleaning truck from Polston Applied Technologies has four 8-inch hydraulic pumps (2,500 gpm each) and delivers up to 1,100 hp. The knuckleboom crane has 49 feet of reach from the center and 180-degree rotation.

844/765-7866; www.polstonprocess.com.

20. Guzzler vane pump pressure off-load option

The CL (Classic) industrial vacuum loader with vane pump off-load system option from Guzzler Manufacturing is designed to handle all types of liquid wastes and slurries in an industrial setting, as well as a variety of oil and gas applications, including drilling and mud removal, cleanup and recovery of raw material, oil sludge and water removal, frac tank cleaning and general tank cleaning. The vane pump option enables operators to pressurize the debris body at 14.5 psi for off-loading liquids and sludge. The pump can also be reversed to create a vacuum up to 28.5 Hg for vacuum loading liquids and slurries.

800/627-3171; www.guzzler.com.

21. Hyundai Construction Equipment excavators

The R180LC-9A midsize excavator from Hyundai Construction Equipment Americas, one of three new 9A series models (R140LC-9A, R160LC-9A), has an operating weight of 41,560 pounds and 0.99 cubic yard bucket. Both the R180LC-9A and R160LC-9A have a bucket breakout force of 24,250 lbs-ft and maximum dig depth of 19 feet, 2 inches. All models are powered by a certified Tier 4 Interim turbo-charged Perkins 120E engine.

877/509-2254; www.hceamericas.com.

22. Super Products Camel 1200 sewer cleaner

The Camel 1200 sewer and catch basin cleaner from Super Products has a 1,500-gallon water tank and 12-yard debris collector. The boom is capable of 250-degree rotation, 26-foot reach, 21-foot vertical lift and 3-foot downward pivot. Other features include ejection unloading and collector body-tilt. Options include the Acculevel load sensor and hydroexcavation performance package.

800/837-9711; www.superproductsllc.com. ▼



Building a Healthy Business

PROVIDING EMPLOYEE HEALTH CARE COVERAGE BRINGS A WEALTH OF ADVANTAGES TO YOUR BUSINESS

BY ERIK GUNN

ealth care, its costs, and how it gets covered all continue to be in the news. With the implementation of the federal Affordable Care Act, more employers are now required to provide a certain level of health coverage for employees.

Small businesses with 50 or fewer employees don't face the same mandate. Many may see it as beyond their ability to afford. But you might want to think twice about that. Even if you don't have to provide coverage, there are good reasons to consider offering health benefits. The good news, experts say, is that it's possible to do so and still continue to grow and thrive as a business.

BENEFITS OF INSURANCE

Big companies offer health care coverage not just because they can afford it, but because it helps them hire and keep workers. Small businesses might do well to think about it for that reason alone.

"Because health care coverage is a highly prized benefit, offering coverage will make you an employer of choice, easing the recruitment of future talent and ensuring the retention of key talent," says Julie Stich, director of research

at the International Foundation of Employee Benefit Plans. The organization, based in Wisconsin, conducts research and advises employers on benefit trends and practices.

"Providing coverage will help you maintain and increase employee sat-

isfaction and loyalty, enhancing the employer-employee bond and leading employees to a greater sense of appreciation, purpose, engagement and productivity," Stich says.

All those may be a bit challenging to quantify. But there are also some more concrete benefits.

People who have health insurance have access to free preventive care, Stich points out. "This can lead to lower rates of absenteeism, presenteeism and disability."

(Presenteeism? That means coming to work when you're sick and should stay home to get healthy faster.)

As you probably know, if you don't cover your employees, they will now be required under the federal law to obtain health insurance themselves. Lowerand moderate-income people qualify for federal subsidies that help offset the cost, but if you have some highly paid employees, they won't get those same subsidies when they go shopping for health insurance.

"Providing coverage may protect them from exorbitant health costs they may encounter" when they have to buy their own coverage, Stich adds.

There's no question that offering benefits will cost you in the short run. And even if you get a good deal from an insurer in the first year, you may understandably worry about your costs going up substantially in future years.

Even so, there are important financial benefits to offset those costs. And there are strategies to help you reduce year-to-year increases in costs.

"Offering coverage provides employers with tax advantages in the form of deductions and potential small-business tax credits," says Stich.

HELP FOR THE BUSINESS

Deductions and credits are two different things, and you benefit from them in different ways. Tax deductions lower your tax burden indirectly: They reduce the amount of personal or business income that is taxed. But tax credits actually reduce your tax itself, dollar for dollar by the amount of the credit.

Small businesses that pay health insurance premiums for their workers qualify for a federal tax credit on a sliding scale, and starting with 2014 the maximum credit increased to up to 50 percent of the amount the business paid out in health insurance premiums.

To be eligible for the credit, an employer must have fewer than 25 fulltime-equivalent employees; their average salaries must be less than \$50,000 (a number that will be adjusted year to year for inflation); and you must cover at least half of the employee-only health coverage. Finally, you must shop for insurance for your employees through the SHOP Marketplace – state health insurance marketplaces set up similarly to the individual health insurance marketplaces that were created under the federal law. (SHOP stands for "Small Business Health Options Program.")

"PROVIDING COVERAGE WILL HELP YOU **MAINTAIN AND INCREASE** EMPLOYEE SATISFACTION AND LOYALTY, ENHANCING THE EMPLOYER-EMPLOYEE BOND AND LEADING EMPLOYEES TO A GREATER SENSE OF APPRECIATION, PURPOSE, ENGAGEMENT AND PRODUCTIVITY."

> You can see what's available in health plans for your employees at the SHOP Marketplace for your state by going to www.healthcare.gov/small-businesses. Information about the SHOP Marketplace is at www.healthcare.gov/ what-is-the-shop-marketplace.

> You can learn more about the tax credit at www.irs.gov/uac/Small-Business-Health-Care-Tax-Credit-for-Small-Employers. The organization Small Business Majority has a calculator here to help you ballpark the likely credit for your business, but remember that's only an estimate: http://healthcoverage guide.org/helpful-tools/small-business-health-insurance-premium-taxcredit-calculator.

CULTURE OF HEALTH

Ultimately, it will be your decision as to whether to offer health insurance for your employees or not.

Stich says you may find another benefit as well though.

"It fosters a culture of health in a company," she says. "It can potentially reduce employee stress over a lack of health insurance, too-high out-of-pocket health costs and the need to seek appropriate coverage on their own for themselves and their families."

In short, it gives your employees peace of mind. And that's a benefit that can pay off long term.

ABOUT THE AUTHOR

Erik Gunn is a magazine writer and editor in Racine, Wis.

The Cost of Excavation Safety

TAKING THE PROPER PRECAUTIONS IS THE BEST THING FOR YOUR EMPLOYEES AND YOUR COMPANY'S BOTTOM LINE

BY DOUG DAY

very time you dig a trench, you are putting workers at risk. As the trench gets deeper, the risks get higher and the more management practices are needed to make sure the trenching is being done safely.

Two workers are killed every month, on average, in trench collapses in the U.S., according to OSHA. The agency cites "economic pressures, a belief that compliance is unnecessary or an expectation that these short-term operations will go undetected" as key reasons why regulations are not followed, even after years of emphasis.

Any trench 5 feet or deeper requires a protective system: benching, sloping, shoring or shielding. If the trench is less than 5 feet deep, a "competent person" could determine that a protective system is not needed. A competent person is one who has been trained in such things as soil classification, water content of the soil and other matters that could pose a risk to trench integrity. Protective systems in trenches 20 feet deep or greater must be designed by a registered professional engineer or be based on data prepared or approved by one. (A trench wider than 15 feet falls under excavation regulations.)

Workers must also be provided safe access methods. Such ladders, steps and ramps must be within 25 feet of all workers in any trench of 4 feet or deeper. The regulations include several other provisions, such as regular inspection (by a competent person), keeping heavy equipment away from trenches,

storing spoils at least 2 feet from the edge, atmospheric testing and suspended/ raised loads safety.

BEYOND SAFETY

Beyond safety of workers, there are practical business reasons for proper trenching practices. A Philadelphia plumbing company was hit with more than \$40,000 in fines last April for excavation violations while installing a residential sewer line. The OSHA violations included the lack of a protective system, no barrier for the spoil pile, inadequate training and failure to have a hazard communication program.

Making matters worse, three of the violations were repeat events, escalating the enforcement action and accounting for \$36,960 in fines. Four were ranked as serious, which added another \$3,520 for a total fine of \$40,480. That's an expensive bill for shaving a few minutes off a job.

The violations could also have resulted in serious harm, or death, for the workers. Imagine having to deal with that: the fines, civil liability, bad publicity — having to notify the worker's family that they will never see their loved one again.

RISKY BUSINESS

Besides posing the greatest risk, cave-ins are the most common accident



AS AN OSHA TRENCH SAFETY POSTER STATES, **"AN UNPROTECTED TRENCH** IS AN EARLY GRAVE."

involving trenches. One cubic yard of soil weighs as much as a car (a 1-ton dump truck carries roughly 5 cubic yards). Other risks include falls, falling loads, accidents with moving equipment, underground utilities and even hazardous atmospheres.

While the onus for safety falls on the employer, workers are their own best protection. As an OSHA trench safety poster states, "An unprotected trench is an early grave." \checkmark



Online Resources

Half the states are covered by OSHA's regulations; 25 others have adopted their own standards (as have Puerto Rico and the Virgin Islands). Most state standards are identical to OSHA's, but some have other standards.

Learn more at www.osha.gov/SLTC/trenchingexcavation

OSHA eTool

www.osha.gov/SLTC/etools/construction/trenching/mainpage.html

"There are different ways to excavate soil. Most people think you're just spraying water on the ground, but it's a science there's a right way to do it.

"We're here to stay. We've got a good **reputation**, and that makes me

want to work even harder. The guys and I

all have something to prove."

Mike Morehouse, Owner Davids Hydro Vac <u>White</u> Bear Lake, Minn.



Read what matters to contractors in

every issue of Dig Different.



Learning Opportunities Await

THE EDUCATION OFFERINGS AT WWETT 2015 PROVIDE THE LATEST INFORMATION **ON TECHNOLOGY, SAFETY AND BUSINESS FOR EXCAVATION PROFESSIONALS**

BY CRAIG MANDLI

he Water & Wastewater Equipment, Treatment & Transport (WWETT) Show in Indianapolis not only features the newest equipment in the industry and opportunities to network with peers, but also an unmatched focus on educating attendees. The 2015 show will host a series of valuable educational opportunities and workshops to help excavation professionals enhance their knowledge base, and in turn improve their business.

WWETT 2015 kicks off Monday, Feb. 23, with the annual Education Day. Tracks of workshops are sponsored by a variety of professional organizations, including the National Association of Wastewater Technicians (NAWT), National Environmental Health Association (NEHA), Southern Section Collection Systems Committee (SSCSC), National Association of Sewer Service Companies (NASSCO), National Onsite Wastewater Recycling Association (NOWRA), Waterjet Technology Association/Industrial & Municipal Cleaning

Association (WJTA-IMCA) and the Sump and Sewage Pump Manufacturers Association (SSPMA).

The following days will feature a variety of additional workshops and roundtable-type discussions covering a range of topics from truck inspections to pump options to employee retention and recruitment.

All workshops will be held at the Indiana Convention Center in meeting rooms adjacent to the exhibit hall. For more information on seminar times, locations and speakers, visit wwett.com.

Seminars of interest to excavation professionals include:

Education Day, Monday, Feb. 23

Pre-Trip Inspections, by Joe Zito, the sergeant of a commercial vehicle unit with a major metropolitan area police department with jurisdiction in two states. This session will cover walk-around inspection and completing a driver vehicle inspection report.

FEBRUARY 23-26 NDIANAPOLIS

Vastewater Equipment, Treatment & Transport Show

Hours of Service (HOS) Overview, by Joe Zito. This session is a general knowledge overview of part 395 of the Federal Motor Carrier Safety Regulations and to whom the regulations apply when

operating a commercial motor vehicle.

Roadside Inspections, by Joe Zito. This ses-

sion will cover how to be prepared and understand what will take place during a roadside inspection. Topics including brakes, lamps, securement and safe loading, as well as what you can do to better prepare a driver on what to say and do during the inspection.

Ladies and Gentlemen: Create Your Personal Brand and Strategic Network for Success in 5 Easy Steps, by Suzan Chin, the founder and chief marketing officer of Creative Raven. This session is designed for seasoned business



pros and startups alike. It will cover five key elements for personal branding and creating a circle of influence to build business and develop useful and mutually beneficial relationships.

Effective Website Design and Engaging Customers in the Digital Age, by Suzan Chin. Review elements to consider and implement when designing and building an effective website to meet the needs of today's demanding online audience, such as developing a budget, a plan of action, strategy, timelines and content development.

Tapping into the Power of Social Media and Content Marketing, by Suzan Chin. Review the pros and cons of the various facets of social media to help department leaders perform due diligence and make good decisions for online marketing initiatives. The discussion will cover content marketing, how it works, when it should and can be used, and how to utilize it to maximize marketing advantage.

A Trucker's Guide to Washington Speak, by John Conley, who retired at the end of 2013 as president of National Tank Truck Carriers and remains active in tank truck industry issues through his communications company ConleyComm LLC. This session will help translate the acronyms and mysterious language of the Washington bureaucracy that truck operators are likely to encounter in regulatory compliance, enforcement actions, searches for information or at conference presentations.

Cargo Tank Safety and Regulatory Report, by John Conley. This session will focus on tank truck specific safety issues such as preventing rollovers and deaths/injuries involving workers who enter or repair cargo tanks.

Compliance with Part 180 and Preparing for a Tank Truck CT Shop Audit, by John Conley. Department of Transportation regulation 49CFR180 details test and inspection requirements for specification cargo tanks. This session will cover the various tests and inspections, requirements for testers and inspectors, and recordkeeping.

Hydroexcavation — **Tools to Stay Current in a Changing Marketplace,** by Neil McLean, who serves as a hydroexcavation consultant for companies throughout the United States and Canada with Hydro Excavation Consulting Unlimited. As the industry and government adds more regulations, drivers have to be knowledgeable and flexible to stay profitable. Water management, debris management, digging procedures and increasing production will be covered.

Maximizing Productivity on Vacuum/Air Mover Projects, by Gary W. Toothe, CET, a board-certified environmental safety and health trainer through the Board of Certified Safety Professionals. Discuss how everything from the man at the end of the hose through the operator can have a direct impact on the bottom line. Proper nozzle selection, friction and restriction in hose and pipe runs, and how to make sure an air mover is at its best before it leaves the yard will be covered.

Waterblast Safety Can Enhance Productivity, Quality and Profits! by Gary W. Toothe. Discuss the safety solutions that not only prevent handicapping productivity, but actually increase it. Staged cleaning, waterblast myth busting and the importance of proper water filtration will be covered.

Protecting Private Enterprise, by Gil Longwell, a Pennsylvania Department of Environmental Protection and Department of Community Affairs certified environmental trainer and a Kellogg Fellow. This session helps participants understand the need to get involved and discuss the public policy issues associated with the wastewater management industry. Learn why public participation is neither optional nor transferrable.

Combination Vacuum Unit Operation Overview, by Chris Lopez, president/CEO of Municipal Collection System Consulting. From the pre-trip inspection to complex operation, discuss ways in which to enhance a combination unit's overall efficiency and how to implement cost-effective operational techniques.

Been There, Done That, Got The T-Shirt (Small Business From a Hands-On Perspective), by Jim Aanderud, president and owner of Innerline Engineering. Look at the financial challenges in business and discuss ways to increase volume, profit and cash flow. Also discuss the challenges of familyowned businesses, and look at ways to inspire and challenge employees to be key players in the organization.

Nozzles, Nozzles, Nozzles, by Rick Lewis, who has over 23 years of experience in the wastewater collections field, and consults with contractors and cities with wastewater collections equipment and its use in day-to-day operations. This class will help you select the nozzles that best fit your needs.

Rules and Regulations with New Technologies and Working with Regulators, by Anthony Smithson, the former director of environmental health in Lake County, Ill., and now a consultant on public health and regulatory issues. This session will focus on working with regulators and regulations that are outdated, inflexible and built on unfounded assumptions.

OSHA Regulations and Smart Business, by Doug Lassiter, the executive director and lobbyist for the North Carolina Septic Tank Association. Learn the basics on OSHA, what to keep in mind and what to keep on hand in the field.

Sales and Marketing with New Technologies, by Doug Lassiter. This session will cover the basics on what you should keep in mind for your sales and marketing plan. Special consideration will be given to integrating new technologies and services into existing sales and marketing plans and strategies.

Employee Retention and Recruitment, by Beverly Lewis, a 15-year veteran of marketing in the sanitation industry. Attendees will discuss why the wastewater industry is a great place to work and how to create a strategy for both recruiting new workers and retaining existing staff.

Specifying Pumps: Why Do Pumps Fail? by Jeff Hawks, president of Champion Pump Company. This presentation reviews the differences between sump, effluent and sewage pump applications. It will review the various types of pump construction and design, such as motors, bearings, impellers, seals and cord entrances, and touch on the different types of switches used in pumping applications.

Grow or Go! Why Most Companies Fail to Grow Effectively and What You Can Do to Keep Your Company From Failing, by J. Kelly Newcomb, principal/owner of i.e.Brand, an internal/external branding company, along with Newcomb Consulting Group, an organizational development firm specializing in helping family-owned and privately held businesses reach their growth goals. In this session, participants will clearly understand why 90 percent of organizations fail to successfully realize their growth plans. By utilizing the power of the 80/20 principle and other organizational practices, companies will not only learn how to identify obstacles to growth, they will gain insight and direction on what to do about these obstacles.

Target Marketing: How to Effectively and Efficiently Grow Your Sales, by J. Kelly Newcomb. This session will provide participants a proven process and set of tools to effectively and efficiently grow sales.

Effective Branding and How it Can Help Your Business, by J. Kelly Newcomb. In this session, participants will understand the basics of branding and how effective branding can help companies grow their sales and improve their bottom line.

Business Basics 101, by Ellen Rohr, who helps business owners turn their ideas into successful businesses. She is a columnist and contributor to many

publications and she has written four business-basics books. Learn how to lay claim to your financial power, and how to read and use financial reports to keep score in the game of business.

Build the Business You Really Want, by Ellen Rohr. Learn how to develop a simple strategy for a powerful business plan that will drive you in the direction of your goals.

Women in Wastewater Roundtable Discussion, featuring Lara Mottolo, Therese E. Wheaton, Shanna Sands and Joyce Gresh. The panel of professionals from different facets of the industry will address specific product and service questions, the future of the industry, as well as general managerial and career building advice for those starting out in the environmental services.

Lobbying, by Eric Casey, executive director of the National Onsite Wastewater Recycling Association. Participants will learn why it's important to be politically active, and some of the ways they can become involved.

Tuesday, Feb. 24

Best Installation Practices for Trouble-Free Pump Controls, by Brett Wilfong, distributor sales manager, and Mark McCollum, regional sales manager for the western United States for SJE-Rhombus. This presentation will discuss the best methods for installing wastewater pump control panels and float switches, things that can lead to premature pump system failures and troubleshooting pump systems when problems do occur.

New Trends and Technology in Equipment for Excavation Safety, by Mike Ross, shoring specialist and national training director at Efficiency Production Inc. This presentation covers current and emerging trends for excavation safety in urban, residential and congested environments; options and requirements for excavation safety, including OSHA standards; and specific new techniques, technology and safety equipment available to general contractors and subcontractors.

Best Practices: Use, Care and Repair of High-Pressure Sewer Cleaning Hose, by Bernie Hengels, who has been with UEMSI for the past nine years and currently works with OEM and key accounts, and Bob Glick, who assists OEMs and distributors with sewer hose questions for UEMSI. This presentation covers how to identify the manufacturer of high-pressure sewer cleaning hose, how to identify the working pressure of the hose, proper usage and protection techniques, what to look for as indicators of wear and damage to your hose, and how to properly mend your hose in the field and the shop.

How to Position Your Company in the Market Today, by Mike Agugliaro, co-owner of Gold Medal Service, and owner of the service-business mentoring firm, ServiceKey. Discuss how identifying your target audience, finding a unique selling proposition and establishing an effective marketing strategy can help position your company exactly where you want it in the market.

Six Proven Tactics to Generate Leads and Turn Them Into Revenue, by Heather McLeod, brand manager for Mr. Rooter, and Dianna Worthington, franchise consultant and training manager for Mr. Rooter. This session is designed to give attendees straightforward advice on how to make the phone ring with qualified leads and tactics to turn those phone calls into viable, consistent sales dollars.

Growth by Acquisition or Exiting Gracefully: Buying or Selling a Septic or Sewer Business, by A. Rhodes Wilson, a successful businessman with over 40 years of experience in positions requiring creative thinking, detailed planning and faultless execution. This session will help identify prospective buyers or sellers and make a successful approach; apply appropriate valuation factors in determining a fair offer price; understand potential pitfalls of the



sale and how to identify and understand typical sales terms and conditions; structure the deal; and know what to expect at closing and during the transition.

GPS Tracking: Hype Vs. Reality, by Richard Banks, national sales director for US Fleet Tracking. Learn what matters most when making the decision to implement GPS tracking within your core business functions. Understand such factors as refresh rates, leasing hardware versus purchasing it, contracts or no contracts and features that really help you manage your mobile workforce.

Wireless Controls in the Waterjet Industry: Sacrificing Safety for Convenience, by Terry Gromes Sr. and Terry Gromes Jr. of Terydon Inc. This session will be an assessment of the hands-free initiative in the contractor market of the high-pressure waterjetting/waterblasting industry. There will be a discussion of safety versus convenience, versus productivity, and versus cost-effectiveness.

Wednesday, Feb. 25

Considerations in Building Your Next Vacuum Truck, by William Jones, president and owner of Lely Tank and Waste Solutions, and Roy Coffee, sales manager of Lely USA. The presenters will talk about the considerations in deciding how to determine the specifications for a vacuum tank and truck, whether it is the buyer's first truck or the next in a long line of vacuum trucks.

Team Building for Profit, by Don Daub, electrical engineer and highly successful certified business and technology trainer and consultant. The purpose of this class is to coach the contractor on the importance of bringing the whole team together, on the same page, to meet the same goals. This class identifies time management skills, personality types, basic group dynamics and team cohesiveness, which are some of the most important keys to success.

Ten Common Sense Ways to Grow and Improve Your Business, by Lane Post, president and founder of both Pacific Drain Service and Arrow Pipeline Repair. This talk stresses some of the intangibles in small-business ownership such as passion, personality and perseverance, and suggests a return to oldfashioned values aided by opportunities now available through electronic technology.

Setting Expectations — **The Key to Sales and Customer Satisfaction,** by Matthew Sutton, one of the founders of RapidView IBAK, and the vice president of sales and marketing. We all have expectations. Effectively managing these expectations can increase your business, make your customers much happier and avoid unnecessary conflict.

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CALENDAR

Jan. 25-29

Underground Construction Technology International Conference & Exhibition, George R. Brown Convention Center, Houston; www.uctonline.com.

Feb. 18-20

Horizontal Directional Drilling Academy: Mastering Crossing Applications, The Residence Inn Tempe Downtown/University, Tempe, Ariz.; www.hddacademy.com.

Feb. 23-26

WWETT (Water & Wastewater Equipment, Treatment & Transport) Show, Indiana Convention Center, Indianapolis; wwett.com.

March 10-12

10th Anniversary CGA Excavation Safety Conference & Expo, Rosen Shingle Creek, Orlando, Fla.; www.cgaconference.com.

March 15-19

North American Society for Trenchless Technology 2015 No-Dig Show, Colorado Convention Center, Denver; www. nodigshow.com.

June 7-10

Rapid Excavation and Tunneling Conference, Sheraton New Orleans, New Orleans; www.retc.org.

Sept. 29 - Oct. 1

International Construction & Utility Equipment Exposition (ICUEE), Kentucky Exposition Center, Louisville, Ky.; www.icuee.com.

Dig Different welcomes your contributions to our Happenings column. To recognize members of your team, please send notices of new hires, promotions, service milestones, certifications or achievements. We also invite your national, state or local associations to post notices, news items and learning opportunities. Send contributions to editor@digdifferent.com.

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