

PROFILE:

BUSINESS BOOMS WITH JUST SOME SIMPLE PROMOTION

TECH PERSPECTIVE:

UNDERSTANDING LOCATING METHODS IS FIRST STEP TO SUCCESS

Contractor reinvents himself to put company on right path

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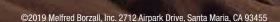
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Seattle contractor builds a new company with better customer service and higher profitability after learning from others.

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Dan Woolcott, a Bob Oates Sewer Rooter technician, uses McElroy pipe fusing equipment to fuse together HDPE pipes while replacing crumbling concrete sewer pipes on a job site. Bob Oates Sewer Rooter, located in Seattle, services the greater Seattle area with sewer and drain cleaning, pipe bursting, and pipe relining. (Photography by Alex Garland)

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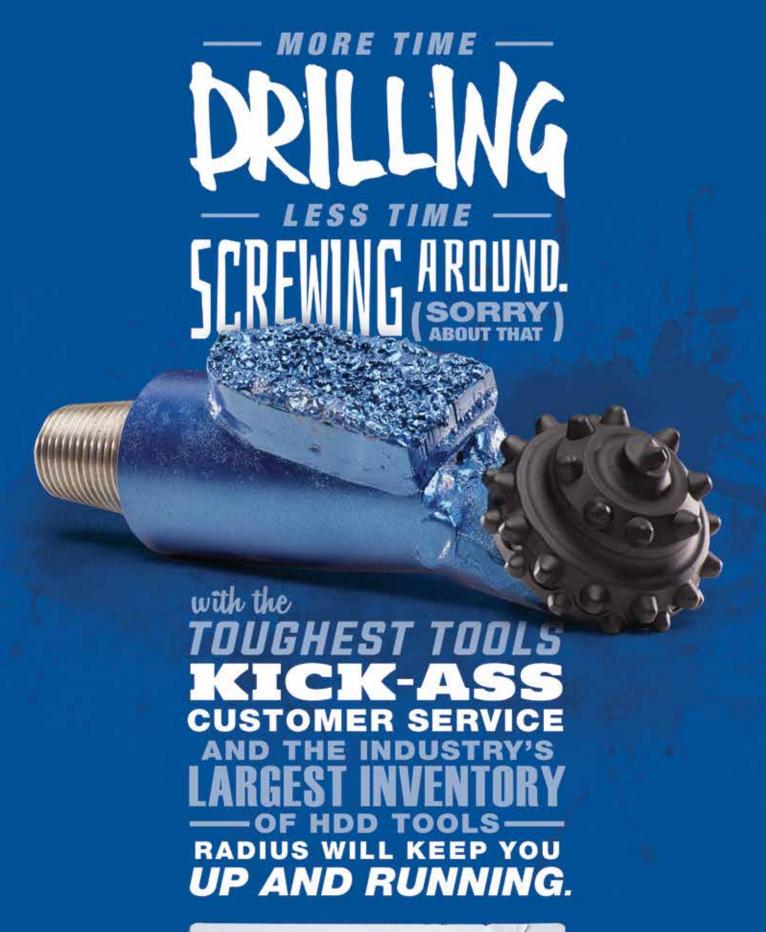


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Ending the Year

PLENTY OF TASKS CAN BE DONE TO PREPARE FOR THE NEW YEAR AND COULD HELP THE COMPANY GROW IF DONE CORRECTLY

BY CORY DELLENBACH

he end of the year is finally in sight with just two months to get through. These last two months can be some of the busiest for you.

You might be done doing con-

DON'T WAIT UNTIL JUNE TO
START PLANNING FOR YOUR
2020 CONSTRUCTION SEASON.
YOU'RE ALREADY TOO LATE BY THAT
TIME. YOU NEED TO START PLANNING
AS SOON AS 2020 ARRIVES.

You might be done doing construction work for the year, but now it's time to get caught up on paperwork you've been putting aside or to start getting your shop organized again after things were just tossed on the side because you and your crews were in a hurry. It might be time to start looking at projects for next summer that you might want to bid

on, or it's time to start window-shopping for that new piece of equipment.

Either way, it's going to be a busy next two months for you and your team. There are three things you need to remember as 2019 draws to a close: Take some time away, aim for bigger and better next year, and start early.

TIME AWAY

The holidays are approaching and you've had a busy summer season. As busy as these next two months can be to wrap up year-end items, you can't forget to give yourself and your team some time off to refresh.

That needed time off will help you stay focused, cut down on some of the stress you might have and get you fired up for the year ahead. Take a long-awaited family vacation, or take your team on a long weekend getaway somewhere.

The added benefit of including your team is showing them that you do care about them, and it builds teamwork for when you are out there in the field.

AIM FOR BIGGER AND BETTER

This last year was a great year for your company. Do you just stand still and hope for the same next year? No. You shoot for a bigger and better year than 2019.

Go for the bigger projects or try to get more clients for your company.

You're not going to be able to grow the company unless you set bigger goals each year. Don't stand back and hope for more of the same without doing anything different. Your competition isn't standing still; they are out there pushing to get your customers. You should be doing the same.

Some easy ways to do this could be increasing your advertising, increasing your presence on social media, and encouraging customers to share their experiences with your company with folks they may know.

START EARLY

Don't wait until June to start planning for your 2020 construction season. You're already too late by that time. You need to start planning as soon as 2020 arrives.

Keep an eye on local newspapers for bid requests from communities in your area, or reach out to city governments near you to see if there are upcoming projects. In the shop, start getting that equipment serviced and primed for the start of the construction season. Don't wait until the last minute, otherwise you could be losing business.

This is where having a calendar drawn up indicating when to start these tasks and when to have them finished by will help. Your crew could easily see that you want equipment serviced by Feb. 15 and would have several weeks to do that. It's better than telling them two days beforehand and making them rush.

READY FOR 2020

As 2019 draws to a close, I'd like to know how you and your teams get ready for the next year. What are some projects you do during the "slow months" to stay busy and keep crews working?

Email me at editor@digdifferent.com or call 715-350-8436. I look forward to hearing from you.

Enjoy this issue! ▼

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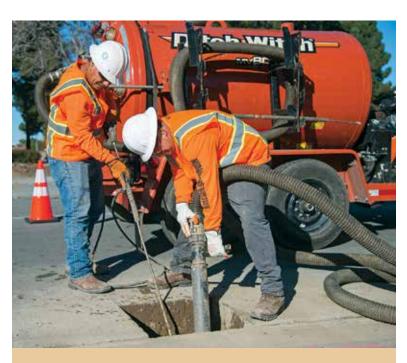
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TRAINING TECHNIQUES

Companies Take Varied Approaches to Keep Employees Productive

A company can only be as successful as its employees doing the work out in the field. Good training is of course imperative. This online exclusive takes a look at how four different companies handle their training.

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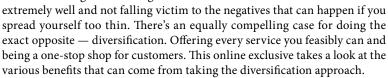
IF THAT WAS TRUE, YOU WOULDN'T BE IN BUSINESS."

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BRANCHING OUT

The Benefits of a Diversified Business

There's a case to be made for keeping your service offerings focused. Doing a few things



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PROJECT MANAGEMENT

Developing an Accurate Budget

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REFINED **APPROACH**

SEATTLE CONTRACTOR BUILDS A NEW COMPANY WITH BETTER CUSTOMER SERVICE AND HIGHER PROFITABILITY AFTER LEARNING FROM OTHERS

STORY: KEN WYSOCKY PHOTOS: ALEX GARLAND



Bob Oates, owner of Bob Oates Sewer Rooter in Seattle, founded the company in 2006.



Bob Oates can divide his four decades in drain cleaning into two distinct chapters. One covers his days as a competent but somewhat narrow-minded contractor with an outdated business model. The second chronicles his emergence as a businessman with clearly defined goals for boosting revenue and better serving customers.

How Oates, the owner of Bob Oates Sewer Rooter in Seattle, moved from one chapter to the next underscores the difference between owning a business and just owning a job. It also drives home the importance of offering customers a diverse set of services and long-term solutions to problems, which subsequently requires investing in top-notch equipment and advanced technologies.

Furthermore, Oates' story also shows the value of hiring people who know more about specific areas of business and, of course, learning from mistakes — and Oates candidly admits he's made his share. to business and management. I read a lot and learn from my mistakes."

FAMILY ROOTS

Oates is a second-generation, old-school sewer cleaner whose father founded Dial A Sewerman in Queens, New York. His odyssey began when he started working for his father at around age 12. When he turned 16, Oates dropped out of high school to work full time with his father.

In 1982, when Oates was 22 years old, he started his own company, Cleancut Sewer. Competing with his father was not an issue. "My dad supported me completely and still served as my mentor," Oates says. "The only thing he asked is that I not specifically target his accounts."

By 1989, Oates was running three trucks. But he was also growing weary of New York, so he did some research and decided to move to Seattle. The decision was partially spurred by the region's rainy climate, which he felt would ensure steady drain cleaning work.

Oates first worked at another company for about six months to get the lay of the land before launching Super Rooter on his own. To build a customer base, the resourceful Oates developed a mass mailing list by going to a public library and hand-copying the names of city property owners listed on the city's tax assessor records.

"I targeted people with more than one property so I could get more bang for each stamp," he says. He mailed more than 5,000 marketing letters during his first month in business; he personally signed each letter and hand addressed the envelopes. The self-developed marketing campaign generated about a 1.5% response rate, a decent return for direct mail.

But about seven years later, Oates got divorced and sold the business. That prompted him to start



The team at Bob Oates Sewer Rooter in Seattle, Owner Bob Oates (left of company mascot) believes in hiring the best employees, buying the best equipment, and offering the best solutions.

Image is everything

As Bob Oates explains his drain cleaning and plumbing firm's integrated marketing campaign, it's hard to determine what's more impressive: the number of different platforms and venues he uses or the fact that the high school dropout is a self-taught marketer.

But one thing is certain: In an age where brand identity is critical, Bob Oates Sewer Rooter in Seattle stands out in the crowd. A popular mascot called Poopy the Plunger. Sparkling clean, bright-red service trucks instead of more common white vehicles. A social media presence on platforms such as Facebook, Twitter and Instagram. Billboards and municipal bus signage. Uniformed employees. No matter what the medium, Oates uses marketing as the ultimate competitive differentiator.

The centerpiece of the marketing efforts is Poopy, a skinny, goofy-looking mascot that appears on all the company's service vehicles, as well as its website and any collateral marketing pieces, invoices and the like. Oates dreamed up the character, based on what he thought the character Gilligan, from the 1960s television show Gilligan's Island, would look like if he was reincarnated as a plunger. (It was one of Oates' favorite shows while growing up.)

"I used to have an alligator as my mascot when I owned Alligator Sewer," Oates says, referring to another company he once ran in Seattle. "People loved it. Mascots are good because pictures stick in

people's minds. We get service calls all the time from people who see our trucks. It separates me from the competition." In fact, the character is so popular that Oates had T-shirts printed in response to customer requests. "We get calls from people around the country who ask for T-shirts," he notes. "We keep about 10 dozen of them in stock in all sizes, just in case customers ask for one."

Poopy even factors into the company's social media efforts. At the moment, for example, the company is randomly placing a 6-foot-tall cardboard cutout of Poopy at various intersections, then running a contest on Facebook to see who can find it. (Prizes vary from month to month and are usually gadgets related to plumbing.)

The internet and social media efforts generate a significant amount of annual revenue. To make sure he gets it right, Oates followed one of his tenets for success and hired someone smarter than him, in this case, Tashia Ortiz, a social media expert. "She's rockin' it for us," Oates says.

Oates concedes that when customers have a problem, they don't look for a bus advertisement or a billboard, or wait for one of the company's trucks to drive by to find out how to contact his company. "But when people have an emergency and they do go online to find a drain cleaner, my name pops out somewhere on that first page and a bell rings. ... They make the connection, 'Oh yeah, that's the company whose trucks I see around town."

"MY FATHER ALWAYS SAID YOU SHOULD HIRE PEOPLE WHO ARE SMARTER THAN YOU, THEN MAKE THEM HAPPY TO WORK FOR YOU."

Bob Oates

yet another business called Alligator Sewer Service, with a large, readily recognizable alligator as the company mascot. "It was the company I always wanted to start," he explains. "I thought Alligator Sewer was a great name because alligators sometimes live in sewers and it starts with A, which would stand out in a phone book. It was a great way to differentiate me from other drain cleaners."

A NEW WAY

Here's where things got interesting. A local plumber who loved the name Alligator Sewer and wanted to establish a foothold in the local drain cleaning market started courting Oates. Eventually, he convinced Oates to sell Alligator Sewer to him, then stay on board under a four-year contract to develop a drain cleaning division. It proved to be a life-changing event.

"I learned so much from working there," Oates says. "When you're a one-man operation, you stick to

doing things the same way. You're like a pond with no freshwater coming in — eventually it gets polluted and dries up. Working there opened my brain to new ideas and technologies, things such as water jetters and inspection cameras."

Oates had an epiphany when he saw the value of offering long-term solutions to customers with drainline problems, as opposed to unclogging drains for a couple hundred dollars, then quickly moving on to the next job — "hitting and running," as he calls it. The long-term solutions were not only exponentially more profitable, they also led to greater customer satisfaction.

"I was used to cleaning lines and then thinking, See you next year," he recalls. "But I wasn't providing good service by hitting and running. This job taught me to take my time, put a camera down a line to see if it required more cleaning and offer long-term solutions.

Bob Oates Sewer Rooter Seattle

FOUNDED: 2006 **Bob Oates OWNER:**

35 **EMPLOYEES:**

SERVICES: Sewer and drain cleaning,

pipe bursting, pipe relining

SERVICE AREA: Greater Seattle area www.boboates.com **WEBSITE:**



Technician Dan Woolcott digs an entry pit for a pipe bursting job at a home near

"And instead of making \$100 or \$200 on drain calls, I saw this company turn those kinds of calls into anywhere from \$5,000 to \$40,000 repairs," he adds. Those high costs reflect the fact that Seattle residents are responsible for sewer lateral repairs from their homes all the way out to the mainlines, which can sit up to 30 feet deep. A good rule-of-thumb estimate was \$1,000 for every foot of excavation required, plus the residents have to pay for any street repairs, too. "It adds up in a hurry."

A NEW PLAN

In June 2006, Oates' four-year contract expired and he opted to be his own boss again. His contract did not contain a no-compete clause, so Oates set off on his own once again. But this time, he was a man with a plan.

"I hit the ground running with all this knowledge," he says. "Before, I actually believed people wanted to see me every year — thought that they'd rather pay me \$100 or \$200 to clean their lines annually. I had no conception that

people would pay, say, \$5,000 for a repair. I was against using cameras, too. Overall, I was stubbornly missing out on opportunities by thinking that technology was unnecessary and believing that other contractors were ripping people off."

The new game plan worked. Within six months, Oates started hiring a few employees. After a year, he stopped working in the field and instead focused on the overall business. During that first year, the company racked up \$800,000 in gross sales. The second year, that number

ratcheted up to \$1.2 million. And every year since then, the company has averaged about 25% growth in gross revenue. "This year we're on track to exceed \$5 million," he points out. "Not bad for a high-school dropout."

One key to growth was hiring specialists. "My father always said you should hire people who are smarter than you, then make them happy to work for you."





For example, he hired a professional estimator because he realized he wasn't good at bidding on jobs and also hired a general manager. The estimator sold so much work in the first six months that Oates was forced to hire eight employees. Now the company employs three full-time estimators as well as five two-man excavation crews that Oates says are busy every day.

ADDING SERVICES

After a couple years of being established and obtaining financing, Oates

expanded into pipe bursting and pipe lining services. He saw those as services that complemented his drain cleaning work.

Oates invested in pipe bursting systems made by Spartan Tool, TRIC Tools and Pipe Genie, along with a Nu Flow Technologies pipe lining

system. "I bought a pipe burster in 2007, and a year later I bought the pipe lining system," he says. "Those technologies gave us even more solutions for customers."

The wide range of equipment enables the company to fulfill a critical part of Oates' business plan: Offer customers as many solutions to drainline problems as possible and become a well-diversified company that doesn't have to give work — and revenue — away to subcontractors.

Today, about 50% of the company's revenue comes from sewer repairs, roughly 25% from sewer and drain cleaning, and another 25% from plumbing services, which the company added in response to customer requests. To provide all those services, the company relies on a Harben trailer-mounted water jetter (18 gpm/4,000 psi) with a 300-gallon water tank; a trailer-mounted jetter (16 gpm/4,000 psi) made by Jetters Northwest with a 300-gallon water tank; and a truck-mounted jetter (14 gpm/3,000 psi), also made by Jetters Northwest with a 100-gallon water tank.

CHANGE FOR THE BETTER

Looking back, Oates marvels at how much his business philosophy has changed over the past few decades. "When I started out, all I did was clean drains," he says. "Now I manage people and money. It's the hardest thing I've ever done because now I'm responsible for all my employees.

"Instead of working out in the field, I'm busy with employees coming to

me with problems, questions and challenges," he continues. "I also have to watch where the money goes — decide how much to spend on advertising, make sure we pay our taxes and so forth. But it's all good. ... I wouldn't have it any other way."

What advice would Oates offer to other one-man outfits with dreams of growing bigger? Without hesitation, he offers his three-pronged plan for success: Hire the best employees, buy the best equipment and offer customers permanent, long-term solutions to their drain problems.

"GOOD ENTREPRENEURS TAKE CHALLENGES AND RISKS. THEY BELIEVE IN THEMSELVES AND KNOW THAT WITH A GOAL — A VISION — AND HARD WORK, THERE'S NOTHING THEY CAN'T DO." Bob Ogies

"Good entrepreneurs take challenges and risks," he adds. "They believe in themselves and know that with a goal — a vision — and hard work, there's nothing they can't do. You have to believe in your skills and work hard to do the best for your customers. And whatever you do, don't be that guy who just puts a snake down a pipe."

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SIGNS OF SUCCESS

PROFESSIONALISM AND GOOD PROMOTION PROPEL CONTRACTOR TO THE TOP OF THE HEAP IN POPULAR WASHINGTON STATE TOURIST REGION

STORY: MARIAN BOND PHOTOS: JEFF SMITH

The power of good promotion quickly became apparent to Ron Smiley, co-owner of Allied Plumbing and Pumps in Chelan, Washington, when he invested in a strategically located building and put up his company sign in 2013.

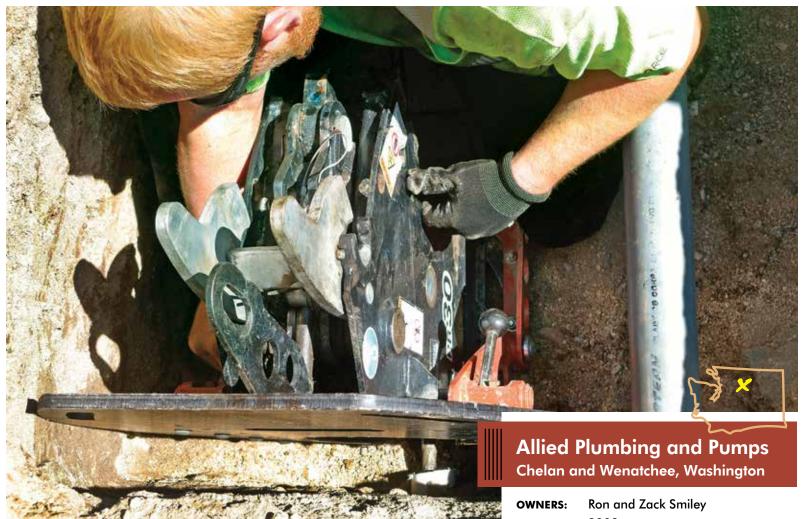
While ordering Chinese food at a local restaurant, 25-year-old Smiley, wearing a new company uniform, was approached by a stranger who exclaimed that he noticed a new plumbing company in town and congratulated Smiley on the building and sign.

The business first opened in 2009 when Smiley rented a storage facility, took out a business

license and began offering plumbing services. But it wasn't until four years later, after Smiley took a brief hiatus from the business so his wife could attend college in Spokane, that the new building and prominent signage began drawing potential customers' attention.

During the hiatus, Smiley worked as a plumber for a large firm, finalized his journeyman license and honed his skills, knowing he would return to his startup operation in Chelan and eventually to nearby Wenatchee.

The rebirth, so to speak, included inviting his brother, Zack Smiley, to become a partner.



Korey Kase of Allied Plumbing and Pumps installs a pipe bursting machine (HammerHead Trenchless) in preparation for a new sewer line to be pulled through the existing line.

2009 **OPENED:**

Plumbing, drain cleaning, CCTV, **SERVICES:**

jetting, backflow, pipe bursting

EMPLOYEES: 9

IT'S IN THE NAME

Ron Smiley had always envisioned his shop as a 24/7 full-service provider. He opted away from calling the company Smiley's Plumbing or Lake Chelan Plumbing in favor of Allied Plumbing and Pumps because he felt it was more encompassing and created a better perception. He had the vision from the inception.

Although he started with the most basic of services, it wasn't until the reemergence of Allied Plumbing and Pumps that he and his brother expanded into CCTV, drain cleaning, jetting and pipe bursting in addition to traditional plumbing.

The company is now running seven service vans, each with approximately \$8,000 in inventory. There are now six technicians and three office staff, and Allied Plumbing and Pumps has quickly become a premier service provider in Chelan and nearby Wenatchee.

When a service call comes in, the company's ServiceTitan software system helps determine which truck is best suited to go on that call. All technicians have expertise across dis"WHILE WORKING IN SPOKANE, I WAS INTRODUCED TO PIPE BURSTING. THE FIRM I WORKED FOR WOULD OCCASIONALLY SUB OUT ONE OF THOSE JOBS. I WAS WOWED BY IT — SO IMPRESSED."

Ron Smiley

ciplines, but Smiley says they triage the calls coming in to decide which individual they want to respond.

INTRODUCED TO PIPE BURSTING

Chelan and Wenatchee are situated on Lake Chelan, a 52-mile-long lake in the middle of the state. Total population of the two towns is a little over 45,000 permanent residents, but there is an influx of vacation homeowners during the summer and everything gets busier.

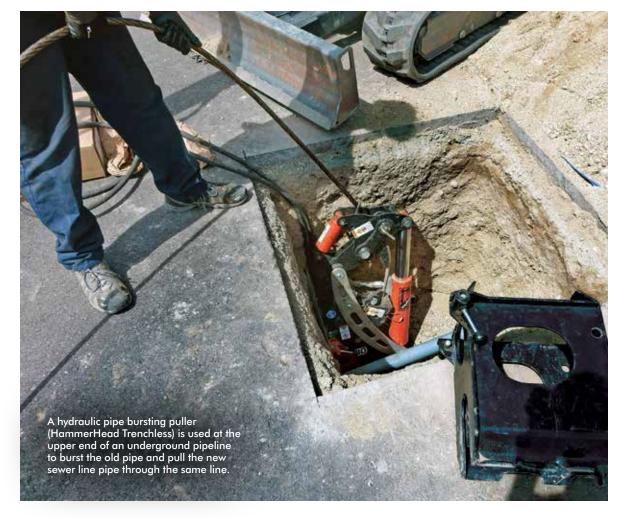
While Allied Plumbing and Pumps was on hiatus in the lake area and Smiley was in Spokane, he was doing more than just working in the field. He was also observing and learning many of the finer points of customer relations, advertising and new technology.

"While working in Spokane, I was introduced to pipe bursting. The firm I worked for would occasionally sub out one of those jobs," Smiley says. "I was wowed by it — so impressed. I had a chance to talk with the owner of the system. I realized the benefits to the customer, particularly in our area, and for the profit potential."

Smiley elected to include pipe bursting in his "rebirth." He initially subbed out those jobs but was soon in a position to buy his own HammerHead Trenchless system. Pipe bursting has become a major contributor to the bottom line for Allied Plumbing and Pumps, representing 25% of revenue. Drain cleaning and jetting make up about 35%, and the rest is plumbing. About half the work is residential.

Systems in the company's service area include





The staff at Allied Plumbing and Pumps includes (from left) Blanca Lehman, Cindy Smiley, Andrea Skube, Korey Kase, Kevin Britton, Paul Dahlstrom, Jadens Miley, Tyler Allen, and owners Zack Smiley and Ron Smiley.

a wide variety of pipe including clay, Orangeburg, concrete and cast iron as well as PVC. And Allied Plumbing and Pumps works on all of it.

Root impaction in the sewer systems is a common problem, and many of the issues with replacement are brought about because of the historical nature of the area. The approximately 16 small cities around the lake, most with sewer systems, don't always allow open-dig pipe replacement, which means pipe bursting is playing a significant role by providing a viable alternative for properties protected by strict dictates to preserve older structures.

Another unique aspect of the lake is that some communities are not readily accessible by road. To serve these areas, Allied Plumbing and Pumps loads its equipment onto a customized pontoon boat and hits the water.

Because of these challenges, homeowners faced with a need for sewer repair or replacement often turn to pipe bursting because it is acceptable to the municipalities and limits disruption.

Smiley notes that there will always be some situations where an open dig will be called for and approved — for example, where there are negative grade issues or an old system with a lot of sags in the pipe but no historical restrictions.

Smiley says homeowners initially have no awareness of the process, but when they learn their problem can be solved without digging up the yard or driveway, they want to know more. "This is a solution that sells itself," he says.

Since Allied Plumbing and Pumps is the only company in the area offering pipe bursting, municipalities often refer distraught homeowners to the company. Other area plumbing and drain companies also call on Allied Plumbing and Pumps to provide pipe bursting for their customers.

Allied Plumbing and Pumps has put a lot of effort into promoting all of its services, but particularly pipe bursting.

Allied Plumbing and Pumps improves service with software

Success depends on more than good equipment and up-to-date technology. It starts with the handling of the initial call and performance of the office staff and continues with the action of the on-site technician in the introduction to the client, the explaining of costs and options, having the needed parts and sticking to the job until it is complete.

Ron Smiley, co-owner of Allied Plumbing and Pumps in Chelan, Washington, manages many of these aspects of the job with ServiceTitan software.

Prior to using ServiceTitan, Smiley says he was doing things kind of old school. ServiceTitan tracks work orders, marketing campaigns, employee performance and all contacts with customers. It also allows Smiley to keep an eye on everything.

The program provides a report card system on the performance of each employee, which allows Smiley to make important evaluations, oversight and adjustments where necessary.

As the company is a 24/7 operation, it was important to Smiley that telephone calls always be answered promptly with information taken and immediately forwarded so they can respond in a timely and professional manner. He engaged an answering machine service that has filled that bill nicely.

"If someone has water on their floor, the person calling does not want to be told to leave a name and number. We always take those calls and are ready to roll to solve the problem."

Smiley says the software and the answering service help ensure customers are treated properly.

"Even the most basic steps to present a professional image are important," Smiley says, "such as having a clean rig and clean uniform, wearing booties as opposed to slipping off shoes, handing the customer a business card, referring to a flat-rate price book at the beginning of the call and having a parts runner (someone on staff to handle these jobs) with the company so the service technician can stay there on the job."

THE MENU GROWS

During his time in Spokane, Smiley saw the advantages of having a trailer jetter and he added that to his wish list.

"I looked at the franchise operations in Spokane and saw they would have several trailer jetters," Smiley says. "I also saw and experienced that using a more powerful jetter was a much better way to clear a line. I figured the big companies had that equipment for a reason."

In 2014 he was finally in position to purchase a larger jetter and chose a Spartan Tool Ultimate Warrior Hydro-Jet (4,000 psi at 18 gpm). It has become an important asset for the business.

In addition to the jetter, Smiley also knew the benefits of having a reliable camera system, and that was at the top of the list when he reopened his shop.

"HAVING THESE **VARIOUS OPTIONS** FOR A CUSTOMER HAS BROUGHT A LOT OF ATTENTION TO THE COMPANY.

MOST OFTEN, PIPE BURSTING IS THE MOST SUITABLE METHOD IN THE AREA."

Ron Smiley

"That was a day-one purchase." He has a Spartan Tool 200 camera and a NaviTrack locator from RIDGID.

The pipe bursting systems are HammerHead horizontal directional drilling pipe pullers with a variety of heads. He also added directional boring equipment from Pow-R Mole Trenchless Solutions.

"Having these various options for a customer has brought a lot of attention to the company," Smiley says. "Most often, pipe bursting is the most suitable method in the area."

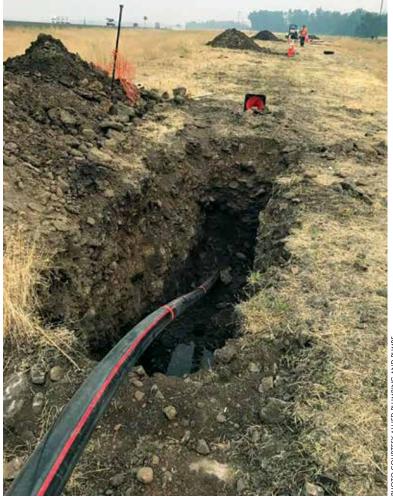
His fleet includes a variety of Ford

and Chevrolet vans and trucks, along with a Bobcat E35 compact excavator and a 22-foot custom-made pontoon boat.

STRETCHING THE BORDERS

Allied Plumbing and Pumps operates out of a 3,400-square-foot building on a 1-acre lot in Chelan. They have office and warehouse space and, as noted, a prominent company sign. The shop is located along a main route into town.

A new line is being installed via pipe bursting through a fielded area near Chelan, Washington. The company added pipe bursting services in response to customer inquiries and the profit potential.



Allied Plumbing and Pumps owners Zack Smiley (left) and Ron Smiley feel a professional image and style from start to finish are keys to success.



Allied Plumbing and Pumps staff use a horizontal directional drill on a job site in the winter on a line installation.

"[PIPE BURSTING] IS A SOLUTION THAT **SELLS ITSELF."**

Ron Smiley

When the Smiley brothers contemplated expanding into Wenatchee, they considered a billboard on a major thoroughfare. When reviewing that cost, it was decided it made more sense to buy a building along that

route and put up another sign on the building. The exposure has been beneficial, and the cost was not that much greater than the billboard.

Smiley is a firm believer that having a building in view of the public is a superior method of advertising and building name recognition.

BUILDING THE TEAM

Finding technicians is a universal issue and a significant challenge for Smiley. Despite advertising for technicians throughout the area and into Spokane, the response is often disappointing.

"For potential employees, we will offer a two-week training experience and have a candidate riding with one of our technicians before agreeing to a commitment to hire," he says.

He says they invest heavily in safety training, and technicians are all fully licensed and trained for confined-space entry. They also have licensed divers for any work that is required on the lake itself. Some homes draw lake water for domestic and potable use, and the company services the submersible pumps that are on the lakebed, following all regulations carefully.

Smiley considers himself very fortunate to be in this business. He has family members who have successfully operated plumbing companies in other regions of the country, which has been an inspiration for the young entrepreneur. Still, he says having his own experiences and forming his own path has been extremely rewarding as the business continues to grow.

He is particularly grateful for the guidance he has received since joining Plumbing Heating Cooling Contractors and the networking opportunities he has shared with other contractors out of his immediate area who have been in the industry for many years.

"It was like having someone take you under his wing," Smiley says. "Those people have been willing to offer suggestions, insight and counsel every step of the way — very helpful for our efforts. I give the organization a lot of credit for the position we have attained here in our area."



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Locating Is Never the Same Twice

UNDERSTANDING THE METHOD AND BEST PRACTICES WILL ENSURE EACH JOB GOES SMOOTHLY

BY JARED RANEY

t's easy to pick out small, common mistakes in utility locating — like swinging the locator wildly from side to side — but consistent results require an in-depth knowledge of the locating method.

Locators and equipment-specific recommendations can vary wildly, but there are a few rules of thumb that any good locating technician should know.

"It's never going to be the same for every locate. The locator or contractor really has to open their mind up," says Jake Jeffords, director of marketing and global accounts for Vermeer. "There are going to be variables on every job, and you've got to be open to using that variable, changing your frequencies to what's best for your particular locate."

FINDING THE FREQUENCY

Understanding frequency is essential. Often, workers will assume that a frequency they have had success with in the past will work again. That's not really the case, however.

Jeffords likens it to AM and FM radio. AM radio works over longer distances, particularly when the receiver has a straight shot to the transmitter. But if something blocks the signal, it's not strong enough to overcome that barrier. FM, on the other hand, is strong enough to reach anything in its radius — but only over short distances.

"I like to start on a midrange frequency, and then go either way," Jeffords says. "If I know I've got a lot of lines underground (I'm seeing a lot of marks on the ground from 811), then maybe I would lean more toward the low frequency so I get a good, narrow, long-distance run.

"If I know I've got a water main with a rubber gasket and I want to push over it, then I'm going to use that higher frequency," he says, "because it's going to give me more power over a shorter distance."

PEAK AND NULL

Once you've determined the best frequency for the transmitter, narrowing down the true position of the utility requires an understanding of peak and null frequency. This is a setting on the receiver that refers to the ups and downs of a radio wave.

"It goes in a mountain and a valley: You want to use the two valleys to get your general area, but the peak of the mountain is where the actual line is supposed to be," Jeffords says.

Operators tend to fall back on using the null setting because it is simpler. Essentially, the peak setting will give you a locate on the strongest part of the signal. There's less room for error, which makes it trickier to get a bead on, but it produces more accurate results because you're narrowing down the signal to the area underground that is transmitting the strongest signal — the utility itself.

"When you get down to putting paint on the ground, potholing or finding the bore, put it in peak because it gives you the peak signal that you're looking for," Jeffords says. "It gives you a more accurate locate. You can be off 3, 4, 5 inches either way otherwise, because peak and null are not the same."



SENDING THE SIGNAL

All of this also relies on how you're sending out your signal. There are three methods: conductive, inductive and coupling.

Conductive is the preferred method. Simply put, a conductive signal is applied directly to the utility through lead wires. Inductive is when a signal is sent into the utility

TO BE VARIABLES ON EVERY JOB, AND YOU'VE GOT TO BE OPEN TO USING THAT VARIABLE, CHANGING YOUR FREQUENCIES TO WHAT'S BEST FOR YOUR PARTICULAR LOCATE."

Jake Jeffords

from above ground without an actual physical connection. As you can imagine, this is less reliable and produces a weaker signal. It's also possible in some cases to apply a clamp, or coupler, around a utility line. While technically considered a type of inductive locating, it's usually referred to as coupling.

There is also passive locating, which is attempting to locate off the natural frequency of the utility.

"Your pipes and cables act like antennas, radiating the signal from power or phone lines, and in a lot of cases you can go out without the transmitter and detect the presence of that utility," says Don Dillon, a sales manager for locating products with Subsite Electronics. "Passive is not a means of identification; it's a means of avoidance. All it's saying is, 'I believe there's a pipe or cable down there, and I should exercise caution."

TRICKS OF THE TRADE

When locators run into problems that can't be fixed by tailoring the frequency, there are a few tricks.

A common practice is "dotting out" utilities, or essentially taking a problem area and attempting to overlay the locator's results with a utility map or visual surface observations.

Move in a 360-degree circle around the problem area, marking each locator hit with a dot. Then try to line up each dot with what you know is supposed to be in the ground. This can help clarify the locate when the signal is bleeding into other utilities.

Also, take time to analyze the site before breaking out any equipment. A lot of problems can be solved or prevented by just understanding the site and taking cues from what can be seen of the utilities above ground.

"When you walk onto a job site, you need to really survey the area," Jeffords says. "Don't think so much underground, but

look at the resources you have above ground. I can usually decipher what I need to do to start my locate, what the best method is, to find the line."

This can be anything from power lines and boxes, water meters, telecom boxes, transformers, gas mains and more.

"For me, the biggest thing when my locators go out is I want them to take a look at the site and try to get a general understanding of what's going on there. Almost every structure is going to have multiple utilities going to it," says Jeremy Marginson, project and safety manager with Ultra Engineering. "They really need to navigate the site and figure out what's going on there, make sure everything makes sense."

WALKING THE JOB

For locating-specific subcontractors, Marginson recommends taking the customer on a tour of the site after the locate to explain any concerns and make sure they understand exactly what's going on under the ground — including what isn't known.

"Once everything is marked on the ground, then we'll do a job walk. We'll take the time to do that and explain everything, any concerns: 'That there might possibly be something here, we weren't able to locate it, I just want to bring this to your attention, but using all our means of locating, we aren't sure," he says. "Making sure they're aware of it so they can take extra caution."

They also provide customers with photos and a written explanation of the site and what was located. A simple subsurface utility map then accompanies all this.

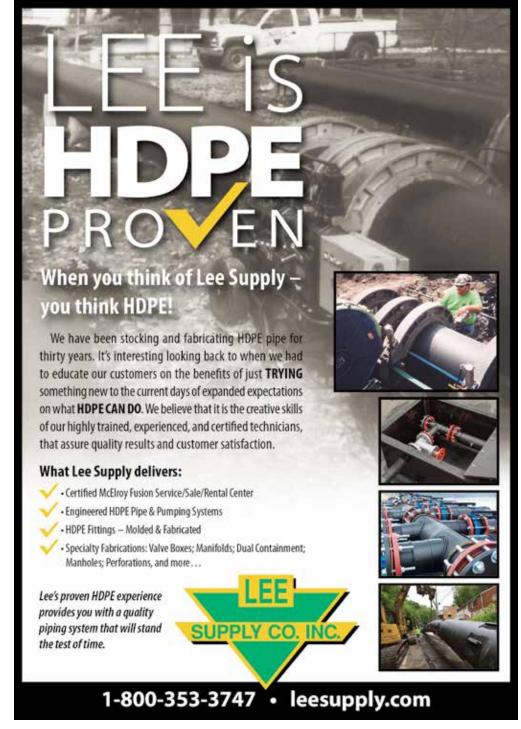
"It's not going to be survey grade, just a drawing on a satellite-image map," Marginson says. "The basic vicinity of where it's at so they have that to look at as well.

"From my perspective as a locator and contractor, there's always a misconception that when you call 811, contractors will take that as 'OK, we're good to go," Marginson says. "It's the responsibility of the contractor to get an accurate locate, to keep the structure safe, the people safe, and I think there's a big misconception on that."

Services like the federally designated call line 811 routes callers through local call centers, which typically notify the utilities that may be affected. Some regions have nonprofit groups that handle utility marking, but in most areas, the people doing 811 marks are municipal workers who don't necessarily specialize in utility locating.

As such, they can't always be relied on for an accurate locates, often only indicating the general vicinity of a utility. Besides potential inaccuracy, it also doesn't necessarily give all the information you would want in order to safely

"Safe digging is super important for us, and the locator is first step of verification," Jeffords says. "It's really important to follow all the steps, not just the basics — call 811 before you dig, have your locate done — but also we really preach and try to train our contractors to use that locator to verify the paint that is already on the ground. In that respect, to not just do their 811 diligence, but to make sure, to double-check. It's their responsibility, to be a good citizen and a good contractor." ▼





Think Small

SOME CONTRACTORS OPT FOR SMALLER TRAILER-MOUNTED UNITS WHEN GETTING STARTED IN THE VACUUM EXCAVATION GAME

BY CORY DELLENBACH

nvesting in a large hydrovac unit isn't always feasible for contractors like Jim Tieffel who don't do a lot of hydroexcavation work to begin with. Currently when Tieffel, a plumbing contractor in Alabama, finds an underground pipe that needs replacing, he calls upon others to handle it. But he's ready for that to change.

"I'm tired of paying out that money when it's something I could easily take on," Tieffel says.

So at the 2019 Water & Wastewater Equipment, Treatment & Transport (WWETT) Show in Indianapolis, a top priority for Tieffel was to check out the various trailer-mounted vacuum excavation options on the market — something much more economically realistic for his business.

"Contractors are paying \$50,000 a year to contract out these services, but they can buy trailer units for as little as \$120,000," says Mike Richards, a sales rep for RED Equipment, a Vac-Con dealership in Iowa. "They pay for themselves, and they last a long time."

MANY APPLICATIONS

Operating trailered units to expose and replace damaged waterlines is only one way the machines can be used. There are many others. Manufacturers have even started to see arborists use them to plant trees.

"It's a very broad market in what we're seeing," says Chapman Hancock, vacuum excavator product manager for Ditch Witch. "As vacuum excavation is getting accepted in more and more areas, we're seeing different uses for trailer units. Drill operators aren't only using it for the mud disposal — they have that vac in front of the drill exposing every line, using that best practice to make sure they're seeing every line they cross."

Telecom companies themselves are starting to add units.

"Telecom crews are making sure the utility line was put in where they thought it was," Hancock says. "There are a lot of owners of utilities — whether it's gas, fiber, water, whatever it is — going out and doing GPS locations themselves after the contractor has done the work."

Adam Russell of JD Brule Equipment, a Tornado Global Hydrovacs dealership, says his company's trailer unit isn't only for digging, either.

"It's not just a hydrovac, it's a sewer cleaning tool," Russell says. "It's for the utility guys who have frozen conduit or guys who are doing catch basins."

EASING INTO THE INDUSTRY

Terry Rawn, who was an integral part of the design of Tornado Global Hydrovacs' trailer unit, says trailers are a way to introduce contractors to the market without having to buy the big \$500,000 trucks.

"Trailers are a great way to get started in the industry," says Rawn, who also operates Hydrovac Nation, a website and social media group for the hydroexcavation industry. "Companies would rather get their feet wet with a smaller unit than take on the cost of a large hydrovac unit. We find that company owners want to go back to owning equipment instead of contracting work out. A trailer unit is a great way to get started, and for some, that is all they will ever need."

Tornado Global Hydrovacs' unit, called the T70 Twister, has a 6-cubic-



The T70 Twister, from Tornado Global Hydrovacs, has a 6-cubic-yard debris tank and is capable of holding 720 gallons of freshwater. The T70 is powered by a Tier 4 Final, 74 hp Cummins diesel engine and has an industrial positive displacement blower capable of 1,200 cfm at 15 inches Hg.

yard debris tank and is capable of holding 720 gallons of freshwater. The T70 is powered by a Tier 4 Final, 74 hp Cummins diesel engine and has an industrial positive displacement blower capable of 1,200 cfm at 15 inches Hg. The water pump is capable of up to 5.6 gpm at 3,500 psi. The trailered unit has operator controls on the rear and is capable of wireless operation.

"This unit will compete with the smaller chassis-mounted hydrovac units currently on the market," Rawn says.

NO CDL NEEDED

The T70 Twister is much like other trailer units from Ditch Witch and Vac-Con in that they can be easily hauled around with a non-CDL driver's license.

"You just need the right-sized truck, like a Ford F-350 or a similar-sized vehicle," says Richards of RED Equipment. "Most cities and contractors have vehicles that big, which makes trailered units attractive."

Vac-Con's Mudslinger trailer-mounted unit can be fitted with either a 990 or 1,190 cfm, 16-inch Hg positive displacement blower and can have debris tank sizes of 535 or 845 gallons. The debris tank has a hydraulic dump hoist with a 55-degree dump angle. The Mudslinger water pump is capable of 4 gpm at 4,000 psi.

ALWAYS CHANGING

Ditch Witch's lines of trailered vacuum excavation units have been on the market a number of years, but the company continues to make improvements to them.

The HX line of trailer excavators has standard cyclonic filtration, adding extra filtration before material is delivered to the debris filtration.

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The HX50, equipped with a 49 hp Kubota diesel engine, features a 1,005 cfm blower and a water pressure capacity of 3,000 psi. The boom is capable of 330-degree rotation. The HX30, powered by a 24.8 hp Kubota diesel engine, features a 512 cfm blower and a water pressure capacity of 3,000 psi.

"If you look at the overall package, we've really made the trailer purpose built," Hancock says.

The changes between the FX line and the HX trailered units include taking out all the mesh lining on the deck, making the trailer itself the skid for the vac system. The overall height of the unit is cut down by 10 inches, and ground clearance is increased by 5 inches. The trailer is also 6 inches narrower, allowing for easier access on job sites.

"When we took a step back and looked at the FX and what we wanted to do, everything we did was contractor driven," Hancock says. "We go out and we talk to them. All of our designs are based heavily on their input. We want to make sure we're making it better. It has to have a good look to it but, more important, it needs to function the way an operator would want it. If there's improvement points, we always want to know about them."

MAKING THE MOVE

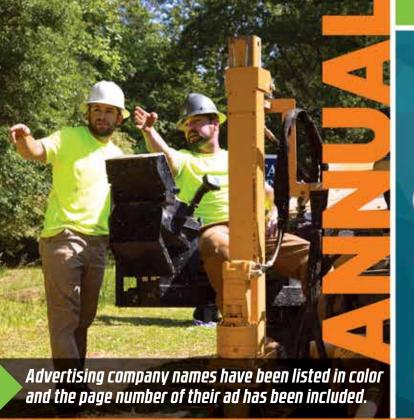
By the end of the WWETT Show, Tieffel had gathered a few quotes from some manufacturers and knew he was going to make a decision in the coming weeks.

"It's a move we have to make to remain competitive in our market," Tieffel says. "I'm not ready for a huge truck, but these trailers will come in handy, and in the long run, the money will stay with me at these jobs."

UPPER RIGHT: A Ditch Witch HX50 trailer unit sits on display at the 2019 Water & Wastewater Equipment, Treatment & Transport (WWETT) Show in Indianapolis. LOWER RIGHT: Vac-Con's Mudslinger trailer-mounted unit can be fitted with either a 990 or 1,190 cfm, 16-inch Hg positive displacement blower and can have debris tank sizes of 535 or 845 gallons. The debris tank has a hydraulic dump hoist with a 55-degree dump angle.







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Pow-R Mole Trenchless Solutions

1400 Commerce Pkwv. Lancaster, NY 14086 800-344-6653 • 716-683-2486 www.powrmole.com

Presvac Systems

4131 Morris Dr. Burlington, ON L7L 5L5 800-387-7763 • 905-637-2353 • Fax: 905-681-0411 sales@presvac.com www.presvac.com

Pro-Mark Utility Supply, Inc.

2603 Pacific Park Dr. Whittier, CA 90601 877-325-1525 • Fax: 562-906-2022 promark@promarksupply.com www.promarksupply.com





Quick Connect

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Radius HDD

2525 Ranger Hwy. Weatherford, TX 76088 800-892-9114 • 855-471-2771 • Fax: 817-599-3024 info@radiushdd.com www.radiushdd.com Ad on page 7

RAMVAC Vacuum Excavators by Sewer Equipment

1590 Dutch Rd. Dixon, IL 61021 888-477-7638 sales@ram-vac.com www.sewerequipment.com



Rival Hydrovac Inc.

Box 5 Major, SK SOL 2HO 403-550-7997 tdell@rivalhvdrovac.com www.rivalhydrovac.com Ad on page 23

RODDIE, Inc.

4457 Trumble Creek Rd. Columbia Falls, MT 59912 888-406-3821 • 408-224-7777 • Fax: 888-406-8282 rod@roddieunderground.com www.roddieunderground.com Ad on page 41



Schonstedt Instrument Company

100 Edmond Rd. Kearneysville, WV 25430 800-999-8280 • 888-367-7014 • 304-725-1050 schonstedt.info@spx.com www.schonstedt.com

ScreencO Systems LLC

13235 Spur Rd. Genesee, ID 83832 208-790-8770 sales@screencosystems.com www.screencosystems.com Ad on page 54

Sewer Equipment Co. of America by Sewer Equipment

1590 Dutch Rd. Dixon, IL 61021 888-477-7611 • Fax: 815-284-0453 sales@sewerequipment.com www.sewerequipment.com

Soil Surgeon, Inc.

PO Box 15083 Santa Ana, CA 92735 949-363-1401 • Fax: 714-434-9998 info@soilsuraeoninc.com www.soilsurgeoninc.com



Sonetics

17600 SW 65th Ave. Lake Oswego, OR 97035-5229 800-833-4558 • 503-684-7080 • Fax: 503-620-2943 sales@soneticscorp.com www.soneticscorp.com Ad on page 17

Source One Environmental (S1E)

300 S Dayton St. Davison, MI 48423 810-412-4740 service@s1eonline.com www.sleonline.com

Spartan Tool

1618 Terminal Rd. Niles, MI 49120 800-435-3866 sales@spartantool.com www.spartantool.com



Subsite Electronics

1950 W Fir St. Perry, OK 73077 800-846-2713 info@subsite.com www.subsite.com



Super Products LLC

17000 W Cleveland Ave. New Berlin, WI 53151 800-837-9711 • 262-784-7100 info@superproductsllc.com www.superproductsllc.com Ad on page 9

Suttner America Company

14864 W Ridge Ln. Dubuque, IA 52003 800-831-0660 sales@suttner.com www suttner com



Tech Products, Inc.

105 Willow Ave. Staten Island, NY 10305 800-221-1311 • 718-442-4900 • Fax: 718-442-2124 DOConnor@TechProducts.com www.techproducts.com

TRIC Tools, Inc.

1350 South Loop Rd., Ste. 104 Alameda, CA 94502 888-883-8742 iohn.raffertv@trictools.com www.trictools.com Ad on page 33

TRUVAC by Vactor Manufacturing, Inc.

1621 S Ilinois St. Streator, IL 61364 800-627-3171 • 815-672-3171 sales@truvac.com www.truvac.com Ad on page 5



Ultra Shore

4745 Bakers Ferry Rd. SW Atlanta, GA 30336 800-746-7464 • 404-505-0510 • Fax: 404-505-0506 info@shoring.com www.shorina.com Ad on page 37

Underground Construction Technology

2 Greenway Plaza, Ste. 1020 Houston, TX 77094-8669 281-558-6930 www.uctonline.com Ad on page 45



Vac-Con, Inc.

969 Hall Park Rd. Green Cove Springs, FL 32043 904-284-4200 vns@vac-con.com www.vac-con.com Ad on page 56

VANAIR

10896 W 300 N Michigan City, IN 46360 800-526-8817 • Fax: 219-879-5800 marketing@vanair.com www.vanair.com



Vector Technologies Ltd.

8301 W Parkland Ct. Milwaukee, WI 53223 800-832-4010 • 414-247-7100 inquiry@vector-vacuums.com www.vector-vacuums.com

Vermeer Corporation

1210 Vermeer RD E Pella, IA 50219 800-837-6337 www.vermeer.com Ad on cover

Vermeer MV Solutions

27137 S Hwy 33 Okahumpka, FL 34762 352-728-2222 sales@vactron.com www.vermeermvs.com Ad on page 11

VIVAX

METROTECH

Vivax-Metrotech Corp. 3251 Olcott St. Santa Clara, CA 95054 800-446-3392 • 408-734-1400 sales@vxmt.com

www.vivax-metrotech.com

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Warrior Trenchless Solutions

1400 Commerce Pkwy. Lancaster, NY 14086 716-601-7760 www.warriornodig.com

WWETT Show

6191 N St. Hwy. 161, Ste. 500 Irving, TX 75038 972-536-6477 wwett.info@informa.com www.informaexhibitions.com Ad on page 51

LISTINGS BY CATEGORY

Air Excavation Equipment

Custom Truck One Source

Kansas City, MO 816-241-4888 info@customtruck.com www.customtruck.com

Presvac Systems

Burlington, ON 800-387-7763 • 905-637-2353 • Fax: 905-681-0411 sales@presvac.com www.presvac.com

RAMVAC Vacuum Excavators by Sewer Equipment

Dixon, IL 888-477-7638 sales@ram-vac.com www.sewerequipment.com

Rival Hydrovac Inc.

Major, SK 403-550-7997 tdell@rivalhydrovac.com www.rivalhydrovac.com Ad on page 23

Sewer Equipment Co. of America by Sewer Equipment

Dixon, IL 888-477-7611 • Fax: 815-284-0453 sales@sewerequipment.com www.sewerequipment.com

Super Products LLC

New Berlin, WI 800-837-9711 • 262-784-7100 info@superproductsllc.com www.superproductsllc.com Ad on page 9



VANAIR

Michigan City, IN 800-526-8817 • Fax: 219-879-5800 marketing@vanair.com www.vanair.com

Vector Technologies Ltd.

Milwaukee, WI 800-832-4010 • 414-247-7100 inquiry@vector-vacuums.com www.vector-vacuums.com

Vermeer MV Solutions

Okahumpka, FL 352-728-2222 sales@vactron.com www.vermeermvs.com Ad on page 11

Aluminum Tubing



Milwaukee Rubber Products, Inc.

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Auger Machines

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Okahumpka, FL 352-728-2222 sales@vactron.com www.vermeermvs.com Ad on page 11

Blower Rebuilding/Repairs

Presvac Systems

Burlington, ON 800-387-7763 • 905-637-2353 • Fax: 905-681-0411 sales@presvac.com www.presvac.com



IMPERIAL

Imperial Industries, Inc.

Wausau, WI 800-558-2945 • 715-359-0200 • Fax: 715-355-5349 info@imperialind.com www.imperialind.com

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Menomonee Falls, WI 800-325-3730 • 262-781-7888 • Fax: 262-781-1742 sales@milwaukeerubber.com www.milwaukeerubber.com Ad on page 31

Presvac Systems

Burlington, ON 800-387-7763 • 905-637-2353 • Fax: 905-681-0411 sales@presvac.com www.presvac.com

Boring Machines

Pow-R Mole Trenchless Solutions

Innerster NY 800-344-6653 • 716-683-2486 www.powrmole.com

Vermeer MV Solutions

Okahumpka, FL 352-728-2222 sales@vactron.com www.vermeermvs.com Ad on page 11

Bucket Machines

HARDFACE TECHNOLOGIES by Postle Industries

Brook Park, OH 216-265-9000 • Fax: 216-265-9030 dweinhardt@postle.com www.hardfacetechnologies.com

RAMVAC Vacuum Excavators by Sewer Equipment

888-477-7638 sales@ram-vac.com www.sewerequipment.com

Sewer Equipment Co. of America by Sewer Equipment

Dixon, IL 888-477-7611 • Fax: 815-284-0453 sales@sewerequipment.com www.sewerequipment.com

Cable/Cable Attachments

Spartan Tool

Niles, MI 800-435-3866 sales@spartantool.com www.spartantool.com

CIPP Equipment & Materials



Applied Felts, Inc. Martinsville, VA 276-656-1904 info@appliedfelts.com www.appliedfelts.com



Perma-Liner Industries, LLC

Clearwater, FL 866-336-2568 • 727-507-9749 • Fax: 727-507-9849 info@perma-liner.com www.perma-liner.com



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Source One Environmental (S1E)

Davison, MI 810-412-4740 service@s1eonline.com www.sleonline.com

Warrior Trenchless Solutions

Lancaster, NY 716-601-7760 www.warriornodia.com

Coatings/Linings/Sealants

AGRU America, Inc.

Georgetown, SC 800-373-2478 • 843-546-0600 • Fax: 843-546-0516 salesmkg@agruamerica.com www.agruamerica.com

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Communication Equipment

Sonetics:

Sonetics

Lake Osweao, OR 800-833-4558 • 503-684-7080 • Fax: 503-620-2943 sales@soneticscorp.com www.soneticscorp.com Ad on page 17

Construction Equipment

Custom Truck One Source

Kansas Citv. MO 816-241-4888 info@customtruck.com www.customtruck.com

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Subsite Electronics

Perry, OK 800-846-2713 info@subsite.com www.subsite.com

Consulting/Engineering/ Design Services

Source One Environmental (S1E)

Davison, MI 810-412-4740 service@s1eonline.com www.sleonline.com

Cranes/Hoists/Winches

Custom Truck One Source

Kansas City, MO 816-241-4888 info@customtruck.com www.customtruck.com

Dealer/Distributor

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Subsite Electronics

Perry, OK 800-846-2713 info@subsite.com www.subsite.com

Vermeer MV Solutions

Okahumpka, FL 352-728-2222 sales@vactron.com www.vermeermvs.com Ad on page 11

Drain Tile

Advanced Drainage Systems, Inc.

Hilliard, OH 800-821-6710 • Fax: 614-658-0204 info@ads-pipe.com www.ads-pipe.com

Drill Bits

Bit Brokers International

West Frankfort, IL 618-435-5811 • Fax: 618-435-2388 bitsales@bitbrokers.com www.bitbrokers.com

Carson Underground, Inc.

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Brook Park, OH 216-265-9000 • Fax: 216-265-9030 dweinhardt@postle.com www.hardfacetechnologies.com

Infinity Tool Mfg.

Benton, IL 888-838-6657 • 618-439-4042 • Fax: 618-439-4380 sales@infinitytoolmfa.com www.infinitytoolmfg.com

Kondex Corporation

Lomira, WI 800-447-1860 • 920-269-4100 info@kondex.com www.kondex.com/drilldefender Ad on page 43

Melfred Borzall, Inc.

Santa Maria, CA 800-558-7500 • 805-739-0118 mail@melfredborzall.com www.melfredborzall.com Ad on page 3

Vermeer Corporation

Pella, IA 800-837-6337 www vermeer com Ad on cover

Drilling Fluids

Carson Underground, Inc.

Carson City, NV 888-427-0379 • 775-884-2204 • Fax: 775-884-2209 scottw@carsonunderground.com www.carsonunderground.com

Melfred Borzall, Inc.

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Pow-R Mole Trenchless Solutions

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Radius HDD

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Drills

Sonetics

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Duct Pullers/Slings

Carson Underground, Inc.

Carson City, NV 888-427-0379 • 775-884-2204 • Fax: 775-884-2209 scottw@carsonunderground.com www.carsonunderground.com

Quick Connect

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Dump Bodies

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Dust Control



Imperial Industries, Inc.

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Easement Machine

RAMVAC Vacuum Excavators by Sewer Equipment Dixon, IL

888-477-7638 sales@ram-vac.com www.sewerequipment.com

Sewer Equipment Co. of America by Sewer Equipment

Dixon, IL 888-477-7611 • Fax: 815-284-0453 sales@sewerequipment.com www.sewerequipment.com

Education/Training

Source One Environmental (S1E)

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Vermeer Corporation

Pella, IA 800-837-6337 www.vermeer.com Ad on cover

WWETT Show

Irving, TX 972-536-6477 wwett.info@informa.com www.informaexhibitions.com Ad on page 51

Equipment Attachments



LaValley Industries

LaValley Industries

Bemidii, MN 218-444-3030 • Fax: 218-444-9900 www.lavalleyindustries.com

Equipment Parts and Services

HARDFACE TECHNOLOGIES by Postle Industries

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Vermeer MV Solutions

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Erosion Control

Advanced Drainage Systems, Inc.

Hilliard, OH 800-821-6710 • Fax: 614-658-0204 info@ads-pipe.com www.ads-pipe.com

AGRU America, Inc.

Georgetown, SC 800-373-2478 • 843-546-0600 • Fax: 843-546-0516 salesmkg@agruamerica.com www.aaruamerica.com

Lee Supply Co., Inc.

Charleroi, PA 800-353-3747 • 724-483-3543 info@leesupply.com www.leesupply.com Ad on page 25

Excavating Equipment

Custom Truck One Source

Kansas City, MO 816-241-4888 info@customtruck.com www.customtruck.com

Easy Kleen Pressure Systems Ltd.

Sussex Corner, NB 800-315-5533 • 506-433-3393 • Fax: 506-433-2443 sales@easykleen.com www.easykleen.com Ad on pages 47, 54

Fast-Vac/Multi-Vac

Union Grove, WI 800-558-2280 • 262-878-0756 • Fax: 262-878-4019 sales@fast-vac.com www.fast-vac.com Ad on page 35

Super Products LLC

New Berlin, WI 800-837-9711 • 262-784-7100 info@superproductsllc.com www.superproductsllc.com Ad on page 9

Excavators

Super Products LLC

New Berlin WI 800-837-9711 • 262-784-7100 info@superproductsllc.com www.superproductsllc.com Ad on page 9



Vac-Con, Inc.

Green Cove Springs, FL 904-284-4200 vns@vac-con.com www.vac-con.com Ad on page 56

Fabricating and Refinishing

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Generators/Air Compressors

John Brooks Company Limited (Dynablast)

Mississauga, ON 888-881-6667 • 905-867-4642 • Fax: 905-567-4330 jthomson@dynablast.ca www.dynablast.ca Ad on page 39



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GPS/Fleet Management Software

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Ground Cover Mats

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Ground Penetrating Radar

Subsite Electronics

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Hand Tools

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ScreencO Systems LLC

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Hardfacing Alloys

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Presvac Systems

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Horizontal Directional Drilling

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Kondex Corporation

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Pow-R Mole Trenchless Solutions

Lancaster, NY 800-344-6653 • 716-683-2486 www.powrmole.com

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Radius HDD

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Okahumpka, FL 352-728-2222 sales@vactron.com www.vermeermvs.com Ad on page 11

Hose & Accessories



Kuriyama of America, Inc.

Schaumburg, IL 847-755-0360 • Fax: 847-885-0996 sales@kuriyama.com www.kuriyama.com

Milwaukee Rubber Products, Inc.

Menomonee Falls, WI 800-325-3730 • 262-781-7888 • Fax: 262-781-1742 sales@milwaukeerubber.com www.milwaukeerubber.com

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Presvac Systems

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Suttner America Company

Dubuque, IA 800-831-0660 sales@suttner.com www.suttner.com

Hose - High Pressure

Easy Kleen Pressure Systems Ltd.

Sussex Corner, NB 800-315-5533 • 506-433-3393 • Fax: 506-433-2443 sales@easykleen.com www.easykleen.com Ad on pages 47, 54



Kuriyama of America, Inc.

Schaumbura, IL 847-755-0360 • Fax: 847-885-0996 sales@kuriyama.com www.kuriyama.com

Milwaukee Rubber Products, Inc.

Menomonee Falls, WI 800-325-3730 • 262-781-7888 • Fax: 262-781-1742 sales@milwaukeerubber.com www.milwaukeerubber.com Ad on page 31

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Dixon, IL 888-477-7638 sales@ram-vac.com www.sewerequipment.com

Sewer Equipment Co. of America by Sewer Equipment

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Suttner America Company

Dubuque, IA 800-831-0660 sales@suttner.com www.suttner.com

Hose Reels

Easy Kleen Pressure Systems Ltd.

Sussex Corner, NB 800-315-5533 • 506-433-3393 • Fax: 506-433-2443 sales@easykleen.com www.easykleen.com

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General Pump Mendota Heights, MN 888-474-5487 • 651-454-6500 • Fax: 651-454-8015 sales@gpcompanies.com www.generalpump.com

John Brooks Company Limited (Dynablast)

Mississauga, ON 888-881-6667 • 905-867-4642 • Fax: 905-567-4330 ithomson@dvnablast.ca www.dynablast.ca

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Milwaukee Rubber Products, Inc.

Menomonee Falls, WI 800-325-3730 • 262-781-7888 • Fax: 262-781-1742 sales@milwaukeerubber.com www.milwaukeerubber.com

Ad on page 31 Moro USA, Inc.

Union, MO 866-383-6304 • Fax: 636-583-2044 marketing@morousa.com www.morousa.com

Suttner America Company

Dubuque, IA 800-831-0660 sales@suttner.com www.suttner.com

Hot Water Boilers

Easy Kleen Pressure Systems Ltd.

Sussex Corner, NB 800-315-5533 • 506-433-3393 • Fax: 506-433-2443 sales@easykleen.com www.easykleen.com Ad on pages 47, 54

Dynablast*

John Brooks Company Limited (Dynablast)

Mississauga, ON 888-881-6667 • 905-867-4642 • Fax: 905-567-4330 jthomson@dynablast.ca www.dvnablast.ca Ad on page 39

Hydroexcavation Equipment

Custom Truck One Source

Kansas City, MO 816-241-4888 info@customtruck.com www.customtruck.com

Easy Kleen Pressure Systems Ltd.

Sussex Corner, NB 800-315-5533 • 506-433-3393 • Fax: 506-433-2443 sales@easykleen.com www.easykleen.com Ad on pages 47, 54

Fast-Vac/Multi-Vac

Union Grove, WI 800-558-2280 • 262-878-0756 • Fax: 262-878-4019 sales@fast-vac.com www.fast-vac.com Ad on page 35



GapVax, Inc.

Johnstown, PA 888-442-7829 • 814-535-6766 • Fax: 814-539-3617 inquiry@gapvax.com www.gapvax.com

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General Pump Mendota Heights, MN 888-474-5487 • 651-454-6500 • Fax: 651-454-8015 sales@apcompanies.com www.generalpump.com

HotJet USA

Riverton, UT 800-624-8186 • 801-545-0777 sales@hotjetusa.com www.hotjetusa.com Ad on page 54

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Mississauaa, ON 888-881-6667 • 905-867-4642 • Fax: 905-567-4330 jthomson@dynablast.ca www.dynablast.ca

Milwaukee Rubber Products, Inc.

Menomonee Falls, WI 800-325-3730 • 262-781-7888 • Fax: 262-781-1742 sales@milwaukeerubber.com www.milwaukeerubber.com Ad on page 31

Presvac Systems

Burlington, ON 800-387-7763 • 905-637-2353 • Fax: 905-681-0411 sales@presvac.com www.presvac.com

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3. Brokk 70 remote-controlled demolition machine

Armed with SmartPower, an intelligent power management system, the Brokk 70 is the smallest electric robot in the company's lineup. It offers 100% more power than its predecessor, the Brokk 60II, yet retains the same compact dimensions with only a 133 pound weight increase. Measuring 35 inches tall and 23.5 inches wide, the machine fits through narrow doorways and into tight spaces, making it ideal for interior demolition applications. And with a base weight of 1,235 pounds, it can be transported on an passenger elevator, making it ideal for top-down demolition projects in urban areas. 800-621-7856; www.brokk.com

4. Komatsu America D155AX-8 low ground pressure dozer

The new 354 hp D155AX-8 low ground pressure dozer from Komatsu America has two blade options and more track on the ground. The eight-

roller undercarriage provides greater traction and optimum balance while significantly reducing ground pressure. The ground contact area is increased by 72% from the standard model for improved floatation in soft ground. Equipped with either large-capacity semi-U blade or an angle blade, the D155AX-8 LGP can move large amounts of material while the wider cutting edge reduces the number of passes needed when grading. **847-437-5800**; www.komatsuamerica.com

5. MB Crusher America MB-S18 screening bucket

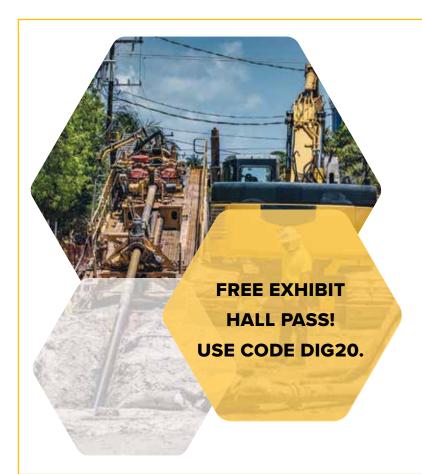
Suitable for large excavators between 44,100 to 77,100 pounds, the MB-S18 screening buckets from MB Crusher America are excellent for screening various kinds of material. Ideal for use before or after crushing, the MB-S18 performs the screening of natural material, such as quarry residue, dry soil and river stone, or virtually any other type of aggregate. The screener is perfect for on-site processing. MB screening buckets are equipped with baskets formed by interchangeable modular panels and are available with holes of various sizes. They are also customizable based on requirements. 855-622-7874; www.mbamerica.com

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7. Trimble Contractor WorkZone app

The Contractor WorkZone app from Trimble is a customizable, cloud-based app that helps manage projects in the field. It offers options to perform estimating, invoicing and quoting, and the app can also create change orders, request for proposals, subcontractor agreements and purchase orders. The Company Settings feature customizes company defaults such as email, phone number, address and company logo. 877-300-2904; https://contractorworkzone.com ▼



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This Issue's Feature:

Nozzle designed for tough environments and big pressure

BY CRAIG MANDLI

A good vacuum excavator can make jobs easier, safer, faster and more efficient. It can help a company cast a wider net for project opportunities. But a unit is only as good as the accessories used with it — including the nozzle. An effective hydroexcavation nozzle needs to be durable enough to handle tough environments and big water pressure. The **Hydro X** from **Enz USA** is designed to fit the bill.

"The new Hydro X has been designed specifically for the hydroexcavating industry," says Dana Hicks, Enz USA's sales manager. "Manufactured with a durable steel construction, it is lightweight for the operator while providing a powerful oscillating front jet."

The Hydro X offers high removal performance, with low wear due to tungsten carbide construction. It comes with a repair kit for quick and easy maintenance. This specialty nozzle will flow from 4 to 20 gpm at pressures up to 4,000 psi, specifically designed for the operator's hydroexcavation truck or trailer.

"With all of the underground utilities — electrical, fiber optics, TV cables, water mains, sewer mains, and oil and gas pipelines — it is critical that the cities, contractors and utility companies have the proper tools to unearth these lines when repairs are needed, with absolutely no chance for injury or loss of life to the operators," Hicks says. "We believe we've accomplished that with this nozzle."

According to Hicks, the research phase to arrive at this particular model has been ongoing. Enz USA develops several new nozzles every year to serve different industries, and constant communication is the key to their development.



UCTonline.com

"We listened to our end users to come up with the best Hydro X nozzle we could design," he says. "It is durable, affordable and works."

According to Hicks, not only was the nozzle extensively tested in-house, the feedback garnered from a beta-test phase provided immense value.

"Ten people were chosen to test the prototype Hydro X nozzle. We wanted this nozzle used and abused, to break it if possible," he says. "The feedback was outstanding. Most if not all of the end users did not want to give it back and anxiously waited for their replacement to arrive."

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Make the Right Call

WORKING AROUND UNDERGROUND UTILITIES REQUIRES CAREFUL PREPARATION AND CONSTANT COMMUNICATION

BY DOUG RISEDEN

tility lines for electricity, phone, cable TV and many others are increasingly being buried underground, making repairs to water pipelines more and more complicated. While putting lines in the ground offers aesthetic improvements and helps protect utilities from storms, it means there are countless obstacles for utilities and contractors doing underground work.

Statistics show that on average there are more than 300,000 incidents each year related to utilities being struck during repairs and installation of new services in the water and wastewater industry. These incidents cost millions of dollars in lost time, damages, loss of service and loss of fire suppression services. Not long ago, workers building a new section of Interstate 4 in Orlando, Florida, struck a natural gas line. The ensuing excavation and repair closed this busy east-west corridor for over 12 hours, causing serious delays and closures of local businesses. As you can imagine, there was a lot of anger from the traveling public and businesses seeking damages.

There are four primary precautions for ensuring that you stay safe and minimize the chances of causing damage during excavation:

- Call 811
- Take notes and photos
- Use the right tools
- · Communicate with utilities.

CALL 811

811 is a nationwide service that will give you all the information you need to make a request to locate pipes and other underground infrastructure. When you call 811, you can find out if it's safe to dig, with requests usually completed within two to three days and a locate lasting 30 days. This process can also be done online — simply search "811" with your state and the appropriate website will most likely be at the top of the search results.

Make sure that you wait for the locate to be completed before you dig — it's the law. Almost all utilities are a member of 811 and will be willing to come to your dig to help ensure their utilities don't get hit. In case of an emergency repair, it is also critical to call 811 before you start. The

staff can quickly provide info and provide service around the clock. If you uncover an issue or hit a utility line during a dig, 811 staff has contact information to reach the right people at any time to help find someone who can make the repair. You might have to pay the repair costs depending on many factors, but regardless, the repair must be made and can't be ignored.

TAKE NOTES

Make sure that you take plenty of pictures before, during and after the excavation is done. Note the locate marks and flags prior to digging, but keep in mind



Always call 811 for a utility locate before digging on a job site. The time it takes is well worth it, considering the potential costs of damages, lost time and lost service if you strike a utility.

that occasionally the actual location of the utility and the marks are very different.

Take pictures of where lines are actually located. Is the natural gas line underneath the waterline or next to it? Gas lines have a minimum bury depth of 24 inches, while water has a 36-inch minimum bury depth. However, it's not uncommon to find some strange things in the trench such as lines that cross over others at intersections or Ts.

300,000 INCIDENTS EACH YEAR RELATED TO UTILITIES BEING STRUCK DURING REPAIRS AND INSTALLATION OF NEW SERVICES IN THE WATER AND WASTEWATER INDUSTRY.

Take lots of notes and use them to update your utility maps, and educate other workers and management. Take the time to help your employer and your utility become a better and safer place to work.

GET EQUIPPED

STATISTICS SHOW THAT ON AVERAGE THERE ARE MORE THAN

The right tools are critical for safe excavation. Vacuum trucks and trailers are ideal for both identifying other utilities and safely excavating the work area. There will be exceptions, mostly for new construction when you could use backhoes and mini-excavators. But in every other case, the ground has

been previously disturbed so a vac unit will be the best, safest and most economical way to go.

Using a probe while looking for other utilities during your dig is necessary but requires caution. Use your experience and common sense when probing for utilities to avoid lines being struck.

COMMUNICATE

With so many lines crisscrossing underground, the issue of various utilities attempting to make their repairs at the same time happens more frequently and has resulted in many changes, including the need to schedule repairs, new businesses being formed to locate utilities, and 811 laws. Look to have a representative of a specific utility on site to assist your dig. This will be time well spent, and it will pay to be patient. An ounce of prevention is worth a pound of cure, and a little precaution to prevent a crisis is better than a huge repair afterward.

Get to know the other utility companies in your area and consider having monthly or quarterly meetings to discuss issues and ongoing or future projects. Use photos and notes from your previous repairs to point out issues and problems to others. If you build friendships with these folks, you're more likely to be able to reach them after normal business hours (since this is when most of our emergencies take place).

Working near utilities is complicated business and the lack of space underground will become further complicated as utilities get replaced. If you take the steps above, you will be in a much better position to excavate more effectively, avoid striking other utilities, and save time and money.

ABOUT THE AUTHOR

Doug Riseden is the technical support manager for Krausz USA and has worked in the public utility field for over 20 years.





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and that makes me want to work even harder.

The guys and I all have something to prove."

Mike Morehouse, Owner Davids Hydro Vac White Bear Lake, Minn.

Read what matters to contractors in every issue of Dig Different.





You Don't Know What You Know

KNOWLEDGE BLINDNESS COULD BE HURTING YOUR TEAM AND BUSINESS

BY ANJA SMITH

here's a fascinating concept called knowledge blindness. Once you are an expert at something, you can't imagine what it is like to know nothing. As a result, it's hard to discuss with a beginner. Your points of reference and foundational knowledge are so far apart that he or she can't follow the conversation.

Lots of contractors suffer from knowledge blindness. Words get used that have no meaning to the person you're talking to, you reference concepts he has never heard of and you forget that the "easy" task is difficult.

Knowledge blindness might not seem like a big deal. We all enjoy being an expert because it makes us feel important. But it hurts your company in three important areas: customer service, bidding and training.

CUSTOMER SERVICE

To sell a job, the customer needs to trust the repair is necessary, your approach is best and you are competent to complete the repair. At first, sounding like a fancy expert might seem like the way to go.

That would be a mistake.

Yes, you need to sound competent. But you also want to build rapport and trust. It's hard to get people to buy something they don't understand, even when necessary.

You don't want to come across as a fast-talking snake oil salesman.

Explaining what you are doing and why will give a customer much more confidence. But you have to simplify your diagnosis, which means going through a lot of what you think of as "common knowledge" that maybe isn't so common.

To avoid this, use specific and simple language. When possible, show them what you are talking about, drawing a sketch if you have to.

BIDDING

Getting a quote, estimate or bid right is the first step in an excellent customer service experience. It's also important for job profitability. A good estimate requires an accurate accounting of each step of the job, which takes knowledge and practice.

Plenty of contractors discount the complexity of the work — especially if you are working with a crew less experienced than you. If I had a nickel for every job that "won't be a big deal" and then morphs into a buge deal __well_

every job that "won't be a big deal" and then morphs into a huge deal ... well, I'd still be short profit because we lost a lot more than a nickel on those jobs.

Good estimators have a gift for avoiding knowledge blindness.

The cost of a job has nothing to do with how long you need to complete the work. Instead, take into consideration the realistic ability of the team you have available, besides a host of other factors.

Don't assume inexperience is the worst enemy of a good estimate. An experienced contractor can become blind to the complexities of the job and discount the time and difficulty.

TRAINING

With the current workforce shortage, training your existing staff to their highest potential is more important than ever. If you don't realize how much you know, you can't pass it down.

Consider the dynamic between the newbies and the veterans. Everyone has pride, and no one enjoys looking stupid. So, the newbie might not seem like he can speak up or admit he doesn't understand.

Unfortunately, it is common for a knowledge-blind conversation to get interpreted as an experienced guy not wanting to share wisdom. But it is much more likely the trainer is dealing with knowledge blindness and he doesn't understand the vantage point of the trainee.



But a green kid, eager to prove his worth, might not say, "I don't understand. Can you explain that to me again?"

When approaching a training session, formal or informal, the trainer should know this phenomenon and try to compensate.

Avoid skipping important foundational knowledge. In a private setting, get a gauge for how much your least experienced guy knows. The worst-case scenario is that you always start at the beginning. It won't hurt anyone to review the basics.

In fact, I love teaching, writing and explaining basic concepts to people because I'm forced to review basics. It helps me remember that foundational

LOTS OF CONTRACTORS SUFFER FROM KNOWLEDGE BLINDNESS. WORDS GET USED THAT HAVE NO MEANING TO THE PERSON YOU'RE TALKING TO, YOU REFERENCE CONCEPTS HE HAS NEVER HEARD OF AND YOU FORGET THAT THE "EASY" TASK IS DIFFICULT.

elements are important problem-solving tools. Experts have a gift for the overcomplicating everything.

Push your trainers and leadership team to explain what might seem obvious. You know what happens when you assume, right?

Avoiding knowledge blindness completely is impossible. By definition, we don't realize we are doing it.

Once we reach an expert level of anything, it is almost impossible to put ourselves in the shoes of the person we once were. You can't help that, but awareness of the concept can help us avoid these major pitfalls with our customers, profit and staff.

It's important we meet people and projects where they are and remember to keep it simple, stupid!

ABOUT THE AUTHOR

Anja Smith is the managing partner at All Clear Plumbing and writer/speaker at Tradebiz Toolbox. Contact Anja at www.tradebiztoolbox.com. ▼







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Bow Case
Details:
PVC Exterior, Floats

Water Resistant or Waterproof Models Available

GUN CASES



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Details: PVC Exterior, Floats



48"x 10" Case

Details:PVC Exterior, Floats



Water Resistant or Waterproof Models Available

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Details:PVC Exterior,
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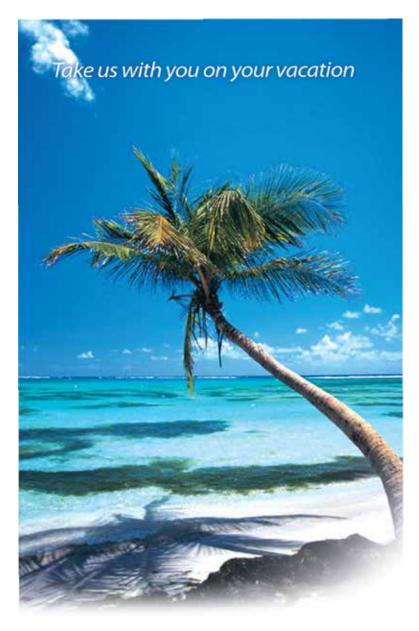
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THE LATEST:



Pettibone X-Series Service School offers hands-on training

Pettibone/Traverse Lift launched a new X-Series Service School program to provide live, in-person machine training opportunities for members of its dealer network. Hosted by Pettibone dealers at various regional locations, the service school is specifically focused on Pettibone's nextgen X-Series Extendo and Traverse telehandlers. The X-Series Service School consists of one-day sessions that cover product information in a classroom-style setting, in addition to hands-on training with the machines.

Mathias joins Boss Industries as sales representative

Boss Industries named Rory Mathias as its new Western regional sales manager. Based on the West Coast, he will be the key contact for



the telecom and util- Rory Mathias ity contractor industries along with heavy equipment, construction and mining segments.

New Municipal Advisory Board guidelines for pipe bursting published

A new step-by-step instruction document for the pipe bursting installation of high-density polyethylene PE 4710 pipe has been approved and published by the Municipal Advisory Board. The MAB Guidelines for PE 4710 Pipe Bursting of Potable Water Mains (MAB-5-2019) is available for free download at the Plastics Pipe Institute's website: www.plasticpipe. org. The document includes multiple sections such as pro forma text for project submittals, minimum contractor qualifications, planning tips, installation details and more to provide an efficient, leak-free project.

Vermeer Mid Atlantic acquires Vermeer Northeast

Vermeer Mid Atlantic acquired Vermeer Northeast, a dealer partner of Vermeer with locations in New York, Massachusetts and Connecticut. The addition of the three locations makes the combined entity one of the largest Vermeer dealer partners in the country with 15 locations covering a service area that includes South Carolina, North Carolina, Virginia, Maryland, Delaware, Pennsylvania, West Virginia, Ohio, New York, Connecticut, Rhode Island, Massachusetts, New Hampshire, Vermont and Maine.

Vacuworx names Williamson regional sales manager

Vacuworx announced that Bruce Williamson was hired as regional

sales manager for the Southeast, serving the territory of Florida, Georgia, Alabama, North Carolina, South Carolina, Kentucky and Tennessee.

Bruce Williamson





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National Utility Contractors Association (NUCA) Safety Directors Forum, Fairfield Nashville Downtown/The Gulch, Nashville, Tennessee. Visit www.nuca.com/sdf

Nov. 11-13

WJTA - IMCA Conference and Expo, Ernest N. Morial Convention Center, New Orleans. Visit www.wjta.org

Nov. 15

Utility Construction Career Fair, Dulles Expo Center – North Hall, Chantilly, Virginia. Visit www.nuca.com/careerfair

Underground Contractors Association of Illinois Annual Convention, Grand Fiesta Americana, Puerto Vallarta, Mexico. Visit www.uca.org

Jan. 28-30

Underground Construction Technology (UCT) International Conference & Exhibition, Fort Worth Convention Center, Fort Worth, Texas. Visit www.uctonline.com

Horizontal Directional Drilling Academy: Mastering Crossing Applications, Talking Stick Resort, Scottsdale, Arizona. Visit www.hddacademy.com

Feb. 17-20

Water & Wastewater Equipment, Treatment & Transport (WWETT) Show, Indianapolis Convention Center, Indianapolis. Visit www.wwettshow.com

Feb. 27-29

NUCA Annual Convention & Exhibit, Loews Ventana Canyon Resort, Tucson, Arizona. Visit www.nuca.com/convention

March 10-14

CONEXPO-CON/AGG, Las Vegas Convention Center, Las Vegas. Visit www.conexpoconagg.com

March 24-26

Common Ground Alliance (CGA) Excavation Safety Conference & Expo, Palm Springs Convention Center, Palm Springs, California. Visit www.cgaconference.com

March 26-28

Mid-America Trucking Show, Kentucky Expo Center, Louisville, Kentucky. Visit www.truckingshow.com

April 5-9

North American Society for Trenchless Technology (NASTT) No-Dig Show, Colorado Convention Center, Denver. Visit www.nodigshow.com

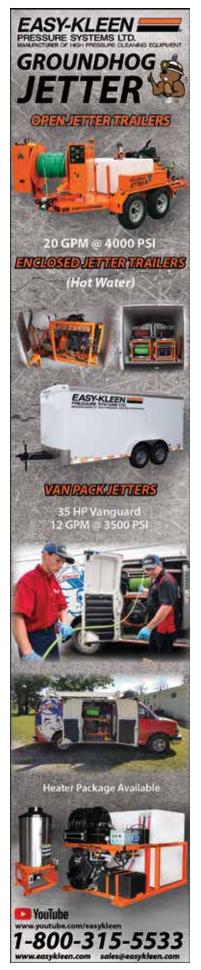
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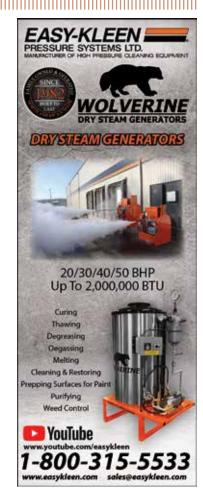














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