

digDIFFERENT

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Contractor finds stability
in air excavation 12

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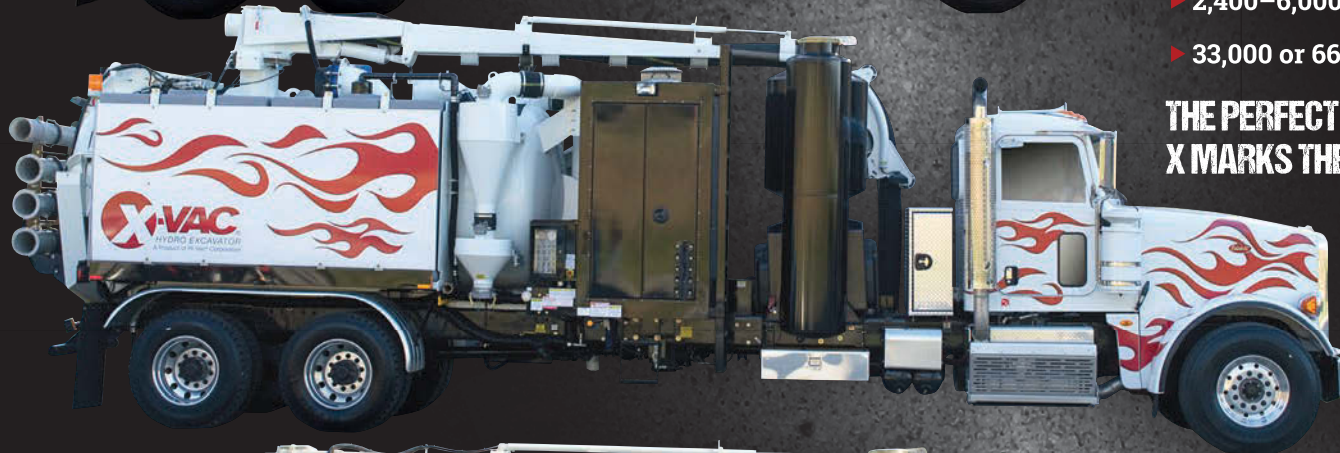
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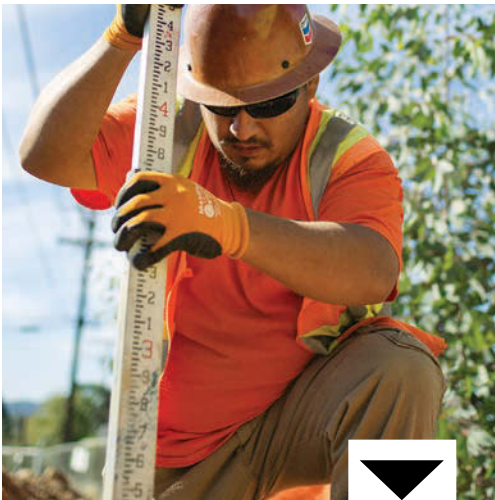
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By Cory Dellenbach

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Ultra Engineering foreman Jorge Cortes (right) and Marcos Jimenez expose a utility line on the property of the Pechenga Casino just south of Temecula, California. Ultra Engineering serves Southern California with the use of air excavation trucks from VACMASTERS. The company also does utility locates as part of its offerings. (Photography by Collin Chappelle)

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TO THROW IN
SOMETHING FRESH,
AND WE'RE DOING
THAT RIGHT AWAY
WITH THIS ISSUE.

Welcome to the New Year

THERE WILL BE A NEW FOCUS ON PROJECTS OF ALL SIZES THIS YEAR IN *DIG DIFFERENT*

BY CORY DELLENBACH, EDITOR

It's been one year since *Dig Different* hit the market, and it's been a great ride. It has been fun getting to know a variety of contractors and learning about their work through story leads and general conversations.

We created this magazine for contractors who are digging different — with hydro- and air excavators, trenchers, directional drills, tunneling machines and pipe bursting equipment — and we hope you are finding it useful.

SOMETHING NEW

With a new year upon us, it's always good to throw in something fresh, and we're doing that right away with this issue.

Project Snapshot makes its debut and will continue throughout the year. It will highlight projects contractors are working on or have completed.

We're asking you, the contractors, to submit photos of your crews and equipment on a job site and tell us about that job. Perhaps it is tough or unique in some way? Maybe it's one of the biggest jobs you've been hired for? Or maybe you just want to show off your hardworking crew? No matter what your reason, we want those project photos.

One photo and a brief summary about the job will appear in print. We'll also do a longer story about that project online to coincide with the print issue.

This issue's Project Snapshot highlights Citizens Energy's Dig Indy project in Indianapolis, Indiana. It's a huge 28-mile-long tunnel project 250 feet underground. Crews are building the network of tunnels to help limit combined sewer overflows.

You can email Project Snapshot ideas to me at editor@digdifferent.com. Please include your name, phone number, a description of the job, what equipment you're using, how long you expect to be on the job, and any interesting notes about it.

ALL EYES ON INDIANAPOLIS

Speaking of Indianapolis, it's time again for the Water & Wastewater Equipment, Treatment & Transport (WWETT) Show, Feb. 17-20, at the Indiana Convention Center. It promises to draw hundreds of exhibitors and

thousands of attendees. In the exhibit hall, spanning almost 12 football fields or 600,000 square feet, you'll find the types of technology you use daily — from multiple suppliers.

You can talk to manufacturers, kick tires, and compare capabilities and prices. You're sure to discover technologies that can help you operate better and more efficiently — things you never knew existed.

While the exhibit hall is a great place to explore, you can't forget about the educational opportunities. The schedule offers several courses specific to contractors like you, including:

- UV-cured CIPP
- OSHA confined space, air monitoring and fall protection
- Excavation safety
- Air conveyance through an industrial vacuum truck
- Vacuum excavation applications and opportunities

You'll find more information on the WWETT Show in this issue. I look forward to seeing you there. Don't be afraid to introduce yourself and tell me about your company.

Enjoy the issue! ▼

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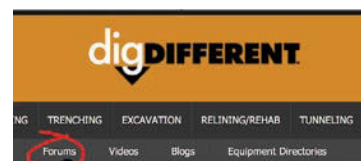
WHAT IS THE ROUTE TO GO?

Rent or Buy: Finding the Solution for You

Contractors starting off have many tough decisions to start with and one of the firsts is how to get the equipment you need. Some

contractors start with renting the equipment, others have bought straight out. There are benefits and disadvantages to both options.

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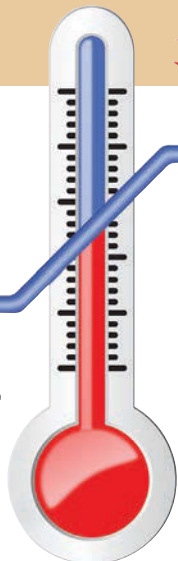
Here is a question for you on our forum: When starting a new business, what would you recommend? Buying your new equipment or renting it first and what are the advantages over either?

SETTING A RECORD

Michels Sets North American HDD Record

Wisconsin-based Michels Corporation used horizontal directional drilling to drill beneath the Athabasca River and completed a record 42-inch, 7,200-foot crossing near Fort MacKay. The 1.36-mile installation is a new record for Michels and the longest in North America for a pipe that size.

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EMPLOYEES IN WINTER

Finding a Way to Work Through the Winter

The winter months usually bring a slowdown in the work for contractors working where the snow flies. For many of them, that means seasonal layoffs. Companies have to decide carefully which workers are laid off and when that should start and how long it will last.

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FOCUSING ON A NEED

SOUTHERN CALIFORNIA'S ULTRA ENGINEERING FINDS STABILITY IN CONSTRUCTION TRADE WITH AIR EXCAVATION AND UTILITY LOCATING

STORY: CORY DELLENBACH PHOTOS: COLLIN CHAPPELLE

When John West and his wife, Leah, were looking to get out of the boat-building business, they knew they wanted to get back to their construction roots.

They founded Ultra Engineering Services in 2011 after seeing a need for air excavation and utility locating throughout Southern California.

"It was built out of necessity because we saw there was nothing out there like it in our area," says John West, vice president of the company, headquartered in Winchester, California. "There were no companies specifically dedicated to just what we do with air."

The company, with its 12 employees, serves clientele ranging from engineering firms to hos-

pitals to military bases. "Our main service offered is air vacuum excavation, primarily for potholing for utilities," West says. "It's been growing more and more, and people are starting to use us for different jobs. They'll have us tunnel under footings or culverts if they're having trouble getting pipes through areas. The business has really grown over the past five years."

BOATS TO VACUUM

The Wests got into boat building in the early 1990s when the industry was doing well. "We wanted to get back to our roots and back into the construction industry when the boat industry took a dive in the late 2000s," West says.



Ultra Engineering technicians Michael Ortega (left) and William Bale check their progress at a work site in Escondido, California. The potholing crews use the VACMASTERS SYSTEM 4000 air/vacuum trucks to excavate the soil.



Ultra Engineering Services Winchester, California

OWNER: Leah West

VICE PRESIDENT: John West

EMPLOYEES: 12

SERVICES OFFERED: Air excavation, utility locating

SERVICE AREA: Southern California

WEBSITE: www.ultrasafedig.com



Ultra Engineering crew members include, from left, Marcos Jimenez, lead air vacuum technician; Brandon Bigelow, utility locating technician; John West, vice president; Leah West, president; Jeremy Marginson, project manager/safety officer; and Jorge Cortes, air/vacuum excavation foreman.

"TO ME, IT DOES MAKE A DIFFERENCE THAT MY TRUCKS SHOW UP BOTH WORKING AND LOOKING BRAND-NEW. OUR CUSTOMERS DON'T HAVE TO WORRY ABOUT OUR TRUCKS BREAKING DOWN HALFWAY THROUGH A JOB."

John West

He and his wife also own a fiberglass-manufacturing business and have built custom homes, but knew they wanted to do more construction.

As West was looking at what type of construction industry to enter, one of his boat clients told him about hydro- and air excavation, wanting him to offer potholing throughout the area.

"I had known about it, and most of the guys I saw were doing hydroexcavation, but the air made a lot more sense to me," West says. "We started doing work for that boat customer and for other clients who had bought boats from us and owned big construction companies."

The company has since expanded with very little advertising, relying mostly on word-of-mouth. "Once we get a client, we don't lose them," West says. "Our clients recommend us to other customers. Our dedication to customer satisfaction keeps them coming back. It's been nice growth over the past five years."

AIR VS. WATER

The decision to go with air was primarily based on some of California's regulations, which make it difficult to dump certain spoils. West says many landfills won't accept anything from a vacuum truck. "The air just makes more

sense because you can go in, do the potholing and then put the spoils back in," West says. "You don't have to import backfill and have more guys out there doing that work. If you do hydroexcavation, you have to figure out how you're going to get rid of the spoils too. The dry spoils are definitely the way to go here in California."

Ultra Engineering has a 92 percent reuse percentage on its dry spoil. "A lot of times we can get it all back in the hole, but sometimes we have a little bit left over that we have to get rid of," West says.

Four VACMASTERS SYSTEM 4000 machines make up the company's arsenal of trucks. They each carry vacuum power of 1,000 cfm at 15 inches Hg and are capable of 300 cfm at 220 psi through the air lance and 300 cfm at 100 psi for air tools. The trucks can run water if needed.

Projects can range from just a couple potholes to upward of 400. Soil types influence how fast the work can be done.

"We just did a recent project for some new traffic signals," West says. "We had to go 13 feet deep by 3 1/2 feet in diameter for each hole, and it all had to be done with air. When we got into some native soil with clay and rock mixed in, it took longer, but we still managed to get the entire project done within the time frame estimated and kept the client happy."

FINDING THE ODD JOBS

There have been some tough jobs and some odd locations. "It seems like it's every week where someone is calling us with an odd job and seeing if we can handle it for them," West says.

One of the toughest jobs the company regularly handles is work at area hospitals because of the need to control traffic — allow access for emergency vehicles — and make sure the area is kept clean and dust-free. "As always, you have to make sure you don't damage any lines. You have a lot more lines than normal near a hospital, and they're all critical," West says. "You have oxygen lines, vacuum lines and chilled waterlines in addition to your regular electric, sewer and gas utilities."

On a hospital job near San Diego last summer, crews had to air excavate a 90-foot-long trench, 6 feet wide and on average 6 feet deep, but reaching 13 feet in some areas.

"Once we reached the end point of the 90-foot trench where they were bringing in all the new communication lines, we were supposed to go under the footing and into the building," West says. The footing, however, went deeper than crews initially thought. "The engineers looked at the plans and told us they needed us to remove a big section of the footing, which isn't something we normally do."

Crews removed a 4-by-2-foot section of the footing that was 4 feet thick using a jackhammer and rock drills. "That took three solid days for two guys to do," West says.

Air excavation came in handy on a job last year where bridges above a drinking-water canal needed to be reinforced. "We had to get underneath and air vac down about 3 feet under the bridge until we hit the old concrete footing," West says. "We were not allowed to get so much as a speck of dirt in the canal, so we had to put up sheets of plastic all the way across under the bridge."

Crews were required to have a boat on site for safety and had to wear life jackets, which made the work more difficult.

"You almost had to crawl in to get to the area where they were working," West says. "There was no other way this could have been done because of the width of the trench required. There would have been no way to get in with shovels and get the dirt out without the use of some form of vacuum excavation. Hydro wouldn't have worked because of the mess it would have made, and mud would have been going into the drinking water."

KEEPING IT CLEAN

West takes pride in his trucks arriving on the job site looking new. "We have a full fabrication shop where the trucks go at the end of the day for

inspection and any services needed," West says. "All the equipment comes out of the truck and the entire truck gets detailed every week, including the engine compartment."

The equipment also gets inventoried and inspected at that time to make sure it's all working properly. "To me, it does make a difference that my trucks show up both working and looking brand-new," West says. "Our customers don't have to worry about our trucks breaking down halfway through a job."

UTILITY LOCATING

Since starting operations, the company has added utility locating to its air excavation offerings. Ultra Engineering has two Dodge Ram ProMaster vans fully equipped with locating equipment.

"When we first started, we would go by the regular Dig Alert mark-outs,

Tough luck with the trucks

Ultra Engineering has had a couple of run-ins with drunk drivers, each resulting in destruction of an air excavation truck.

In mid-September the company lost its newest air excavation machine — purchased just two weeks prior — when a drunk driver landed on it after sailing into the air.

"We had a new truck parked on a job site at a school doing a big project," says John West, company vice president. "Our crews had just wrapped up for the day and were back at the hotel when we got a call from the police saying our truck was just in an accident. We couldn't figure out how since it was parked."

Upon returning to the job site, the crews found out how bad it was. "The guy went through a stop sign and did a Dukes of Hazzard move, flying 60 feet through the air and landing square on top of our brand-new truck that we

had for less than two weeks, and it was just totaled," West says. "It looked like the truck had just blown up."

West plans to replace the truck in the near future with another VACMASTERS SYSTEM 4000 machine or the 5000 model.

Four years ago the company lost another truck when it rolled over after colliding with a car driven by a drunk driver who went through a stop sign.

"That truck was destroyed, but thankfully our guys were safe, that's really all that mattered," West says. "It takes time to get the trucks replaced because of the cost, and there is a waiting list to get the trucks too."



An Ultra Engineering truck is totaled following a collision with a drunk driver.



Ultra Engineering's VACMASTERS SYSTEM 4000 truck, just two weeks old, was totaled after a drunk driver went through a cement barrier and flew over the embankment (at left), landing on top of it.



Ultra Engineering uses VACMASTERS SYSTEM 4000 units as its go-to equipment. The company is looking at purchasing its fifth unit soon.

A one-stop truck

Crews at Ultra Engineering Services get their use out of the company's four VACMASTERS SYSTEM 4000 trucks, but not only for their air excavation ability.

"All of our trucks come fully-equipped with wet saws, clay diggers, jackhammers and other air power tools," says John West, vice president of the company. "One truck can carry everything with it and go out and take care of just about any job without needing a support vehicle."

The 155 hp, six-cylinder turbo diesel VACMASTERS SYSTEM 4000 has a 450-gallon spoils tank with hydraulic hoist and an 85-gallon water tank. The truck's vacuum is capable of 1,000 cfm at 15-inch Hg, while its onboard compressor can do 300 cfm at 220 psi for the air lance and 300 cfm at 100 psi for air tools. The trucks have high-pressure

water capability up to 3,000 psi at 3 gpm and low-pressure water capability of 1,000 psi for cleanup work.

The trucks come standard with an LED traffic directional board and flashing beacons, which West says is a big safety feature. "We also equip ours with cone holders on the front so we have moderate traffic control with us at all times," West says. "We've got special barriers that slide into the truck that we pull out and place around the crew to protect traffic and pedestrians from flying debris."

The company keeps its trucks fueled up and ready to roll each night. "A lot of times we'll get calls in the middle of the night from contractors working through the night who think they've hit a line or have some other emergency," West says. "We'll send the guys out right away. We make sure those trucks are fueled up and ready to go at a moment's notice."

but we found that the accuracy was so far off on them," West says. "I was spending so much time having my guys look for pipes, having to shoot to the side a little more to find stuff because the marks were off by 2 to 3 feet or more at times."

West then moved to hiring private utility locating companies and found they weren't much more successful. "So, we bought the equipment and went through the training to learn how to use it ourselves," West says.

Each van is equipped with two Radiodetection Corporation RD8100s and RD500s, GSSI GPR locators (Geophysical Survey Systems) and Trimble map-

"THE AIR JUST MAKES MORE SENSE BECAUSE YOU CAN GO IN, DO THE POTHOLING AND THEN PUT THE SPOILS BACK IN."

John West

ping instruments and software. Crews use the RD8100s primarily for regular location of metallic pipes and cables, while the RD500s are used for plastic pipe locating. GSSI equipment is used for ground-penetrating radar and concrete scanning work, as well as a GSSI Profiler for electromagnetic induction (EMI). The vans are also equipped with cameras and sondes from Radiodetection.

"We got into utility locating initially for ourselves only to be able to speed things up and be more accurate, but eventually clients started asking if we could do it for them also," West says. "It has grown to the point now where I have several technicians doing it full time."

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Michael Ortega measures the offset of a utility line from the street at the site of a new housing development in Escondido, California.

One advantage crews from Ultra Engineering have is that many have also done the vacuum excavation part of the job.

"The guys who work for me are in the field," West says. "They actually get to see what is underground. They've gone out, they've located it and they've been there while it is being potholed. They get an idea of everything that is going on so they know what to be aware of and what to look for, rather than just having gone through a class that taught them how to use the equipment."

Having the locating crews trained in excavation is also a benefit if an emergency comes up and the regular excavation crew is done for the day.

"If the potholing crews have already worked their full day and the utility techs haven't had a full day in yet, we can still get to that emergency job," West says. "I'll grab a utility tech myself and we'll go out and pothole. I've potholed side-by-side along with the guys."

NOT EXPANDING TOO FAST

The company is a one-stop shop for its customers, able to handle everything on a job site from drawing the plans for the permit, to pulling the permits, to traffic control and running the project. West doesn't plan to add much more to his company's offerings, opting to stay focused on vacuum excavation and utility locating.

"We haven't decided how much more we want to grow," West says. "I never want the company to get to a point where if the economy fails, the company can fail. A lot of people try to grow too big too quick."

West expects to add a few more trucks and utility vans, but doesn't plan to expand outside of the current specialties.

"I like to stay specialized in what we're doing and taking care of our clients," West says. "You never know, though, where things are going to go. You have to be willing to let it evolve." ▼



"I LIKE TO STAY SPECIALIZED ...
YOU NEVER KNOW,
THOUGH, WHERE THINGS
ARE GOING TO GO.
YOU HAVE TO BE
**WILLING TO LET
IT EVOLVE."**

John West

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Damage Prevention During Pipe Bursting

EVEN IN PIPE BURSTING, SURROUNDINGS NEED TO BE TAKEN INTO ACCOUNT TO PREVENT ACCIDENTS, INJURIES FROM HAPPENING

BY MATT TIMBERLAKE

In all forms of utility construction, damage prevention must be a part of the entire construction process to ensure a successful and safe process. From planning through execution, the entire project team and all stakeholders must play an active role in preventing damage to buried utilities inside of a project area.

Pipe bursting is a well-established method of trenchless pipeline renewal. The process involves pulling a steel bursting head through an existing pipe, which fractures it from within and simultaneously installs a new pipe of the same or larger inner diameter in its place.

Pipe bursting is commonly used to replace buried water, sewer, gas and storm lines, and can reduce traditional excavation of a pipeline project by as much as 90 percent. The benefits from a damage prevention standpoint are obvious in the planning phase of a project as there will be a dramatic reduction in excavation, where most utility strikes and damage occurs. However, unlike some methods of trenchless rehabilitation, it does include mechanical excavation.

In order to accomplish a replacement by pipe bursting, there will be a number of strategically located excavations that serve a number of purposes, including insertion of the new pipe, location of the pipe bursting equipment, and reconnection of service connections like sewer laterals or water services.

LOCATING UTILITIES

During project planning, it is essential that all utilities are properly located and marked to show location, type of utility, size, pipe material, and depth. This will allow the project team to plan for temporary utility relocation or conflicts. Geotechnical reports showing actual conditions inside of the existing trench and groundwater levels should be provided when possible prior to the project bid.

Unlike horizontal directional drilling, which installs a new pipe where one does not exist, pipe bursting is replacing a pipe that was previously installed in a trench; therefore, the geotechnical reports should be representative of the backfill and bedding of the pipe to be replaced.

SERVING THREE FUNCTIONS

As the new pipe is installed, a pipe bursting head serves three main functions as it is pulled through the ground. First, it fractures the existing pipe from the inside by applying a radial force created either by a static pull force or a pneumatically driven tool. Second, the existing conduit is expanded by approximately 20 percent larger than the new pipe OD. Lastly, and simultaneously, the new pipe is pulled in immediately trailing the bursting head.

As the head travels through the ground, the earth must either compress or displace to receive the head and new pipe. Depending on the type of soil

and the volumetric displacement of the head, forces will be transferred to an area immediately surrounding the pipe.

A part of the construction plan should include the anticipated “potential impact zone” of the pipe burst, and all utilities inside of that zone be



Matt Timberlake

IT IS EVERYONE'S RESPONSIBILITY TO PROMOTE CONSTRUCTION SAFETY AND TO USE BEST PRACTICES WHEN WORKING BELOWGROUND.

located and exposed or relocated if they become damaged. In many cases, utilities that may conflict with the potential impact zone are “potholed” by use of vacuum excavation, which exposes them and either confirms they are outside of the potential impact zone or allows for the pipe bursting head to pass by safely, at which time the hole is then simply refilled.

In most cases, soil compaction and/or displacement is directed upward from the crown of the existing pipe and the potential impact zone is shown in detail and can be easily calculated.

EVERYONE'S RESPONSIBILITY

In order to anticipate the potential impact zone, there are three major factors taken into consideration: the inside diameter of the existing pipe to be replaced, the outside diameter of the new pipe that is being installed, and the geotechnical conditions found inside the existing trench. By subtracting the inside diameter from the outside diameter and converting to a potential impact zone, a safe and successful pipe burst can be both planned and executed.

It is everyone's responsibility to promote construction safety and to use best practices when working belowground. Although pipe bursting does not open a trench for the entire length of a utility replacement, it does create forces belowground that require proper damage prevention practices be followed.

ABOUT THE AUTHOR

Matt Timberlake is president of Ted Berry Company in Livermore, Maine. ▼

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Smarter Location

SMART DEVICE COMPATIBILITY OF RIDGID SR-24 IMPROVES LOCATING ACCURACY AND SAVES TIME

BY CRAIG MANDLI

Smartphones, tablets and GPS devices are becoming everyday tools in the workflow of excavation professionals. With an understanding of this dynamic, RIDGID has integrated wireless and mapping functions into a new underground locator — the SR-24 — unveiled at the 2015 Water & Wastewater Equipment, Treatment & Transport (WWETT) Show.

The SR-24 adds wireless and GPS features to the company's popular SR-20 utility locator. It uses wireless Bluetooth communication to connect to external devices such as GPS units, compatible signal transmitters and smartphones. The free RIDGIDtrax app makes most smartphones and tablets compatible, visually displaying GPS line traces in real time.

"It was designed to easily replace inaccurate hand sketches and drawings, creating a digital representation of pointers underground," says Eric Huber,

"IT WAS DESIGNED TO EASILY REPLACE INACCURATE HAND SKETCHES AND DRAWINGS, CREATING A DIGITAL REPRESENTATION OF POINTERS UNDERGROUND."

Eric Huber

senior product manager with RIDGID. "Not only does the system leverage tools that most professionals likely already have, it allows them to quickly share accurate information with customers."

MAPPING FEATURES

The mapping features can be utilized in several ways. The SR-24 connects wirelessly to most high-accuracy submeter GPS hand-held devices with Bluetooth. In this mode, the GPS hand-held device is the primary data capture point to obtain the most accurate position information, obtaining depth and signal information wirelessly from the SR-24.

The unit has its own GPS antenna for applications that do not require detailed submeter position information. It has a nominal accuracy of less than 8 feet and gets more accurate with clear line of sight to GPS satellites overhead. This level of location resolution can be used to create reference maps of underground assets, but not exact dig points. It records GPS and locating information on its onboard microSD card at the press of a button. The universal KML file created can be viewed on GIS mapping programs such as Google Earth.

"It enables the operator to go back to the exact spot they need to after mapping is complete," Huber says. "This system is going to appeal to utility and municipal excavators, utility locators, plumbers and even facility maintenance crews."

VIEWING INFORMATION

The RIDGIDtrax app enables operators to view positional information in real time to document underground assets. Just select a utility type and record "digital yellow paint" as you walk the line. The finished KML map is easy to share by email for quick viewing, providing an easy way to document the layout and depth of underground lines.



RIDGID territory manager Joe Borneman, left, explains the features of the SR-24 underground locator and RIDGIDtrax app to an attendee at WWETT 2015. The locating system offers compatibility with smart devices.



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"We did demos for RIDGIDtrax almost constantly at the WWETT Show," Huber says. "It was an extremely popular attraction for us, especially when people saw how it integrated with products such as the SR-24."

The unit is also compatible with the ST-33Q+ signal transmitter, which can be controlled remotely from the SR-24 keypad up to 200 yards away. Eliminating the need to walk back to the transmitter to change frequencies and power settings saves time during difficult locates, a feature that Huber says came directly from customer feedback.

SUCCESS AT THE SHOW

"Our goals attending shows like WWETT are not only to get our new product info out, but also to solve problems that techs deal with in the field," he says.

Huber was thrilled with the turnout at WWETT 2015, and promised that RIDGID would be back with several new developments in 2016.

"This is really our target audience and core customer base," he says. "It's such a huge show for the plumbing and drain cleaning profession. It's a huge date on our calendar." 800/769-7743; www.ridgid.com. ▼

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Education Day Sessions

Wednesday, February 17, 2016

NAWT

National Association of Wastewater Technicians

Rooms 234-236

- 8 a.m. Basics of Septic System Control Panels
- 9:30 a.m. Using Septic Control Panels to Troubleshoot Systems
- 11 a.m. Inspecting Concrete Sewage Tanks
- 1:30 p.m. An Exercise in Septic System Troubleshooting
- 3 p.m. The Basics of Inspecting Drip Systems
- 4:30 p.m. NAWT Ask the Experts Panel Discussion

SSPMA

Sump and Sewage Pump Manufacturers Association

Rooms 133-135

- 8 a.m. Understanding Pumps and Common Pumping Issues
- 9:30 a.m. Evaluation and Installation of Backup Pump Systems
- 11 a.m. Best Installation Practices for Trouble-Free Pump Controls
- 1:30 p.m. Troubleshooting Pumps, Panels and Switches with Digital Multimeters
- 3 p.m. Sizing Guidelines for Sump, Sewage and Grinder Pumps
- 4:30 p.m. SSPMA Ask the Experts Panel Discussion

Business Strategies

Rooms 140-142

- 8 a.m. How Much Should I Charge?
- 9:30 a.m. Business Game Changers: Top 5 Secret Strategies for Massive Growth in Your Service Business
- 11 a.m. The Un-Business Plan — Making Your Business Less Complicated But More Profitable
- 1:30 p.m. How to Use Superior Customer Service to Increase Sales
- 3 p.m. Reward the Right Stuff: Finding, Training and Keeping Great Team Members
- 4:30 p.m. Is Your Business Prepared for a Crisis?

Industry Safety

Rooms 237-239

- 8 a.m. Pre-Engineered Shoring Systems for Cross-Trench Utility Challenges
- 9:30 a.m. Excavation Safety
- 11 a.m. OSHA Confined Space, Air Monitoring and Fall Protection Explained

SSCSC

Southern Section Collection Systems Committee

Rooms 231-233

- 8 a.m. Positioning Yourself for Promotion and Succession Planning
- 9:30 a.m. Step Up Your Game! Taking Current CCTV Inspection Technology to the Next Level
- 11 a.m. Trailer Jetting — Getting the Most Out of Your Equipment
- 1:30 p.m. Vacuuming: the Other Half of the Combination Unit
- 3 p.m. Sewer System Maintenance — Challenges and Solutions
- 4:30 p.m. SSCSC Ask the Experts Panel Discussion

NOWRA

National Onsite Wastewater Recycling Association

Rooms 240-242

- 8 a.m. Introduction to Soils
- 9:30 a.m. Onsite Septic System Loading Rates and Site Layout
- 11 a.m. Making Infiltration Decisions — Understanding Soil Surface Design
- 1:30 p.m. Soil Dispersal Comparison
- 3 p.m. Introduction to the Elements of Onsite System Design and Regulations
- 4:30 p.m. Onsite Septic System Hydraulics and Pump Design

Portable Sanitation

Rooms 136-138

- 1:30 p.m. Marketing Basics: How to Effectively and Efficiently Grow Your Portable Sanitation Sales
- 3 p.m. Trust — How to Build it and Use it to Grow Your Portable Sanitation Business
- 4:30 p.m. Portable Sanitation Forum: Current and Future Critical Issues Affecting the Industry Discussion

NASSCO

National Association of Sewer Service Companies

Rooms 130-132

- 8 a.m. Cleaning Nozzle Technology
- 9:30 a.m. Large vs. Small-Diameter Pipe Cleaning
- 11 a.m. The Lower Lateral — The New Frontier in Sewer Rehab
- 1:30 p.m. Chemical Grouting Technologies
- 3 p.m. The Growth of the UV Cured CIPP Process
- 4:30 p.m. NASSCO Ask the Experts Panel Discussion

Treatment Plant Operator

Rooms 243-245

- 8 a.m. Effective Strategies for Collections System Management
- 9:30 a.m. Sustainable Innovation in Biosolids Management
- 11 a.m. Pretreatment and Wastewater Lagoon Management
- 1:30 p.m. Septage Collection and Treatment
- 3 p.m. Large Scale FOG/Septage Receiving Station — Lantern Environmental Project Case History
- 4:30 p.m. Progress in Electrochemical Water Treatment in Last Century

WJTA-IMCA

Water Jet Technology Assoc. - Industrial Municipal Cleaning Assoc.

Rooms 237-239

- 1:30 p.m. Proper Industrial Truck Maintenance Can More Than Pay for Itself in Productivity and Safety
- 3 p.m. Air Conveyance Through an Industrial Vacuum Truck
- 4:30 p.m. Vacuum Excavation Applications and Opportunities

Women in Business

Rooms 136-138

- 8 a.m. Marketing to Women
- 9:30 a.m. Women of Wastewater: Building a Community of Allies
- 11 a.m. Women in Wastewater Roundtable

Vacuum Truck Equipment and Operation Training

presented by **NAWT** National Association of Wastewater Technicians

Rooms 109-110 8 a.m. - 5 p.m.

This day-long session will discuss in detail the equipment on vacuum trucks and how to operate them. Pumping terms will be covered, as will safety principles, materials often encountered on the job and government regulations.



WWETT Education Sessions

Thursday, February 18, 2016

Liquid Waste Treatment & Disposal

Rooms 130-132

- 8 a.m. Analysis of Drainfield Failures and Restoration Methods
- 9:30 a.m. Cash In on Community System Operations and Maintenance
- 11 a.m. Ultra-Efficient Inspection Technique to Locate Leaks on Septic Systems

SSCSC Sewer & Drain Cleaning Course

Rooms 231-233

- 8 a.m. Hands-On Nozzle Technology
- 10 a.m. Hands-On Jetter Hose Maintenance — Care and Repair

Sewer & Pipe Rehabilitation, Relining & Repair

Rooms 234-236

- 8 a.m. Take Control of Inflow and Infiltration in Manholes
- 9:30 a.m. When Things Go Wrong on a Lining Job
- 11 a.m. Taking Small-Diameter Drain Lining Inside Infrastructure

Sewer & Drain Cleaning, Inspection & Repair

Rooms 133-135

- 8 a.m. Using the Clean Water Act to Grow Profits
- 9:30 a.m. Winning Trench Warfare — Finding Profitability in Sewer/Septic Work
- 11 a.m. Your Best Shot at Sewer Success — How to Get the Most From Inspection Technology

Onsite Septic Installation, Repair & Design

Rooms 237-239

- 8 a.m. Overview of Application, Design, Installation and Operation of Drip Dispersal Systems
- 9:30 a.m. Onsite System Pump Design Made Easy
- 11 a.m. The Onsite Wastewater Industry and Our Carbon Footprint

Treatment Plant Operator

Rooms 243-245

- 8 a.m. Smart Water Technology in Theory and Practice
- 9:30 a.m. Dissolved Ozone in Municipal Collection, Treatment and Disposal
- 11 a.m. Municipal Biological Waste Treatment

Business Strategies

Rooms 136-138

- 8 a.m. How Self-Employed People Can Make More Money
- 9:30 a.m. Growing Your Business in a Tough Economy
- 11 a.m. Staying in Front of Your Customer

NOWRA Design Course

Rooms 240-242

- 8 a.m. Mound and At-Grade Design
- 9:30 a.m. Low-Pressure Pipe in Drainfield Distribution
- 11 a.m. Subsurface Drip Irrigation

Municipal Sewer & Water

Rooms 140-142

- 8 a.m. How to Recover Non-Revenue Water
- 9:30 a.m. Phased Assessment Strategy for Sewers - Understanding Sewer Condition Quicker with Fewer Resources
- 11 a.m. The Science of Pipe Cleaning — Flow and Pressure



Many states approve WWETT education sessions toward fulfilling required certified education units or professional development hours.

See wwettshow.com for a list of approved states and courses.

Friday, February 19, 2016

Liquid Waste Treatment & Disposal

Rooms 130-132

- 8 a.m. | Fact vs. Fiction: The Top Ten Septic Myths
- 9:30 a.m. | All About Facultative Bacteria
- 11 a.m. | Brown Grease Recovery From Grease Trap Waste: Science and Economics

Industry Safety

Rooms 140-142

- 8 a.m. | Identifying and Managing Risk in a Septic or Sewer Business
- 9:30 a.m. | How Well Do You Know Your Cleaning Hose?
- 11 a.m. | Pathogen Exposures to Workers in the Onsite Industry

Business Strategies

Rooms 240-242

- 8 a.m. | Creating a Data-Driven Strategic Marketing Plan
- 9:30 a.m. | What Every Sewer and Drain Contractor Needs to Know About Asset Protection, Tax Reduction and Estate Planning

Municipal Sewer & Water

Rooms 240-242

- 11 a.m. | GIS: Empowering Water, Wastewater and Waste Removal Organizations

Sewer & Drain Cleaning, Inspection & Repair

Rooms 133-135

- 8 a.m. | Advanced Pipe Bursting
- 9:30 a.m. | Low-Latency, High-Definition Video Over Coaxial Cable for Remote Inspection
- 11 a.m. | Plumbers vs. Technicians: The Slow Decline of the Tradesman

Municipal Sewer & Water

Rooms 231-233

- 8 a.m. | Using Acoustic Inspection to Prioritize Sewer Cleaning
- 9:30 a.m. | Evaluation of Automatic Filters for Nozzle Protection in Recycled Water Applications
- 11 a.m. | Flow Monitoring — How to Make Your Program Successful

Treatment Plant Operator

Rooms 243-245

- 8 a.m. | Insights into Ozone Water Treatment Plants
- 9:30 a.m. | Wastewater Microbiology
- 11 a.m. | How to Ensure Gold is the Result — Choosing the Right Dewatering Equipment



Business Software & Technology

Rooms 136-138

- 8 a.m. | Know the State of Your Business Using Business Charts and Reports
- 9:30 a.m. | Using Software to Save Time and Increase Profits
- 11 a.m. | Using Mobile Devices for Business

Sewer & Pipe Rehabilitation, Relining & Repair

Rooms 234-236

- 8 a.m. | Buying Back Capacity
- 9:30 a.m. | Successful Reduction of I&I Using the Holistic Approach to Sewer Rehabilitation
- 11 a.m. | Large Scale Centrifugally Cast Concrete Pipe Culvert Rehab in CO Dept. of Transportation Region 1

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BY DOUG DAY

Whether you are required to hold them or not, safety meetings are critical to protecting your workers and your company from the many risks encountered in the field, shop, your vehicles and your yards every day.

"We have to counteract the contractor's desire to get the job done," says Joel Levitt, author and director of international projects at Life Cycle Engineering. "The goal of safety meetings is to increase people's consciousness."

For the last 30 years, Levitt has provided training in the maintenance and engineering fields for more than 3,000 organizations in 25 countries. He has written more than 150 articles and 10 books on topics around maintenance management. His latest book is *10 Minutes a Week to Great Meetings*.

digDIFFERENT: How often should people hold safety meetings, and how much time do we need to deliver the messages?

Levitt: It depends on your goal. What I'm most interested in is people not getting hurt. It's not unreasonable to have a safety moment every day. It could be one or two minutes. Some companies, when they have any meeting, they always have a safety moment.

A lot of times we'll do just a five- or 10-minute toolbox meeting in the morning; nothing real elaborate. If you're going to cover a bigger topic, it might be a half-hour or an hour with a PowerPoint presentation.

Or it could be a single-point lesson during a toolbox meeting before going to work in the morning. Fatigue is a common cause of accidents: When you are tired, there is more of a chance of injury. Ergonomics would be another, how to pick up something correctly — keeping your back straight, using your legs, not bending over your center of gravity.

Contractors have a unique situation compared to the in-house people. Every single day they are facing a different set of hazards because of the different locations. So they want to get the team together to discuss what's going on at that site. Take five minutes to look at the hazards, like slippery surfaces, construction going on around them, the position of cranes and heavy lifts, and overhead power lines.

New guys get hurt all the time, but the other big group is those who have 15 or 20 years of experience who have a momentary lapse in judgment. That's what we're trying to help them with. You want to keep reinforcing to make sure it's in people's minds when they go to work. My concern is that people are thinking and participating in meetings, so you have to make it fun, interesting and get people's attention.

digDIFFERENT: How often should key topics like confined space be reviewed?

Levitt: You can do it every couple of months, maybe cover a different aspect of it each time. The one story that got my attention is the guy who bent over to pick up a tool and collapsed. The guy standing next to him, thinking he's having a heart attack, bends over to help him and he collapses. It turned out there was a chest-high level of carbon monoxide, so as long as they were standing up they were fine.

They did oxygen sensing at head level. If they had done it up and down their entire body they would have known there was a problem and accommodated it. A lot of people don't know you have to do that, so using oxygen sensors correctly would be a good single-point lesson.

Operational experience is not helpful if you don't know the things behind it. People get hurt by all kinds of crazy stuff. Telling those types of stories is useful.

digDIFFERENT: Larger companies are required to keep safety training records. Should every company do that whether or not they are required to provide training?

Levitt: I would keep a log of the topics so you know what you are covering and to use for planning your next meetings. Sessions should be held on company time and cover the hazards that your organization faces. You should also keep a record of who is in attendance. For those covered by OSHA rules, hazard communications training is required once a year.

digDIFFERENT: Do you have tips about planning an effective meeting?

Levitt: The biggest single problem we see is that nobody knows what the meeting is about; why are we having this meeting? A lot of times, management will call meetings to make a decision they have already made. If you do that too often, people catch on really fast. The appearance of soliciting opinions and actually soliciting opinions are different. ▼

Excavation Industry Safety Topics

Joel Levitt suggests snatching great material for safety meetings from OSHA's website (osha.gov/sltc). He says there are literally enough topics there to last a year, many of which are important to the excavation industry. He recommends these topics in his book, *10 Minutes a Week to Great Meetings*:

- Behavioral safety
- Confined space
- Disease prevention
- Ergonomics
- Hearing conservation
- Ladders
- Hazard communications: Hazcom, MSDS sheets, labeling, etc.
- Lifting toolbox: Topics about lifting and general back care
- Office issues
- PPE (personal protective equipment)
- Seasonal toolbox topics dealing with seasonal issues or holiday awareness
- Slips, trips and falls
- Fatigue
- Small-tool topics associated with hand or power tools
- Weather and how it affects safety

Levitt says the meeting could even include home hazards and driving hazards.

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**CANADA'S ULMER CONTRACTING DELIVERS DIRECTIONAL DRILLING
EXPERTISE TO A CUSTOMER BASE MADE UP OF MUNICIPALITIES**

STORY: **PAUL NICOLAUS** PHOTOS: **TAEHOON KIM**

“I’m 60 years old and I jump out of bed every morning,” says Chuck Ulmer, owner of Ulmer Contracting in Coquitlam, British Columbia, Canada. “I love it.” Originally a carpenter by trade, Ulmer says his construction background served him well leading up to his current line of work in underground utility drilling.

“Carpenters are supposed to be well-rounded, where they know everybody’s trade so they’re able to do a little bit of everything,” he says, and this has informed his own philosophy now that he owns a company. “When you’re a good crew, you should be able to do a little bit of everyone else’s job.”

Prior to branching off and beginning Ulmer Contracting, which specializes in traffic light installations, upgrades and utility locating using trenchless technology, Ulmer

says he hired the first directional driller in British Columbia while working for Kingston Construction — a general industrial contracting company that handles major infrastructure projects including bridges, port facilities, hydroelectric stations, and water treatment and wastewater facilities.

This directional driller had more than enough work to keep him busy, Ulmer soon noticed, so before long he decided to join in and learn more. After Ulmer finished up at his day job he went to work for the directional driller at night. “I figured this is the way to go,” he says, “and I eventually started my own business.”

REVAMPED CLIENT FOCUS

Founded in 1998, Ulmer Contracting rode the wave



Nathaniel Shalay, drill operator, cleans the drill bit of the Vermeer D9x13 S3 horizontal directional drill before starting a job installing waterlines for Richmond, British Columbia.

of work available at that time. "That was when fiber optics were rolling pretty big," Ulmer says. "Everybody bought a drill and away you go. Drill on." While there are now plenty of companies throughout North America that handle directional drilling, there aren't all that many that specialize in it, according to Ulmer, but his company does.

Over time, the fiber optics related work has faded away, but Ulmer Contracting has become the go-to driller for several municipalities in the Greater Vancouver area, where the focus has turned to going underground and installing pipe as cheaply as possible in order to compete with open-cut methods, which Ulmer says are becoming costly.

Currently, Ulmer Contracting is signed up with six area municipalities and has experience handling construction related to water, sanitary, storm, sewer, natural

gas and telecommunications projects. Civil construction contracts have led to work modifying and rebuilding existing intersections, building new intersections, installing and upgrading traffic and street lights, and installing sidewalks.

Underground utility locating and daylighting round out the company's line of services. Ulmer Contracting is able to perform utility investigations and reports the location of buried utilities using advanced magnetic field detection technology in order to prevent the types of missteps that could lead to destruction, injury and even loss of life.

When even more precise depths and locations are needed, nondestructive excavation methods such as daylighting are utilized. For this type of work, the company utilizes a Vac-Tron 850-gallon diesel unit and a "brand spanking new" Vector.

SERVICE AND QUALITY

The focus on meeting the needs of municipalities has served the company well in a number of ways, Ulmer says. Getting paid and getting paid on time is important, and



**"I'M 60 YEARS OLD
AND I JUMP OUT
OF BED EVERY
MORNING."**

Chuck Ulmer



Chuck Ulmer, owner

"WE GET PHONE CALLS IN THE MIDDLE OF THE NIGHT, AND WE GET STUFF DONE. WHEN THEY PULL THE TRIGGER, THE GUN'S GONE OFF AND I'M OFF TO THE RACETRACK. I'M GOING TO GET IT DONE FOR THEM."

Chuck Ulmer

that hasn't ever been an issue while working for cities. In addition, it has essentially eliminated the need to seek out work.

"I don't have to bid very much work out there," Ulmer says. "I just wait for the phone call. I don't chase work. I haven't chased work in 10 years." In fact, he estimates that about 80 percent of their jobs come by request, and the company has developed long-term relationships with a number of entities such as Cobra Electric, PW Trenchless and Fraser City Installations, to name a few. "They only hire me," he says, "and they've only hired me for years."

There's a catch, though, Ulmer says. This type of dream-like setup with regular work rolling in consistently doesn't just happen by accident. "You've got to be extremely good," he says, "and I'm extremely good."

"The other day we just put a 12-inch line and a 16-inch line in with a wee tiny machine in downtown Vancouver," he says. It was 11 feet deep coming out of a building and going into the sanitary and the storm. "They didn't have to even close the lanes. We opened up both sidewalks and kept the traffic going. It's on a major bus route with overhead trolleys and all of that."

This ability to minimize the social costs associated with open-trench installations such as the disruption of traffic flow or damage to roads and sidewalks is important, and Ulmer says his crew's work ethic is part of

the secret to the company's success. "We get phone calls in the middle of the night, and we get stuff done," he says. "When they pull the trigger, the gun's gone off and I'm off to the racetrack. I'm going to get it done for them. They can't stop us once they say go. That's the way we run."

The other essential ingredient, he says, is the quality of their work, which is in stark contrast to a number of other fly-by-night companies that have popped up and then quickly disappeared. "There are four contractors who

Ulmer Contracting Coquitlam, British Columbia, Canada

OWNER: Chuck Ulmer

NUMBER OF EMPLOYEES: 6

SERVICES OFFERED: Directional drilling and civil works

SERVICE AREA: Lower Mainland

WEBSITE: www.ulmercontracting.com



went broke here in town and shut their doors,” Ulmer says. “They thought the machine was a money-maker. Well, it is, if you do it right.”

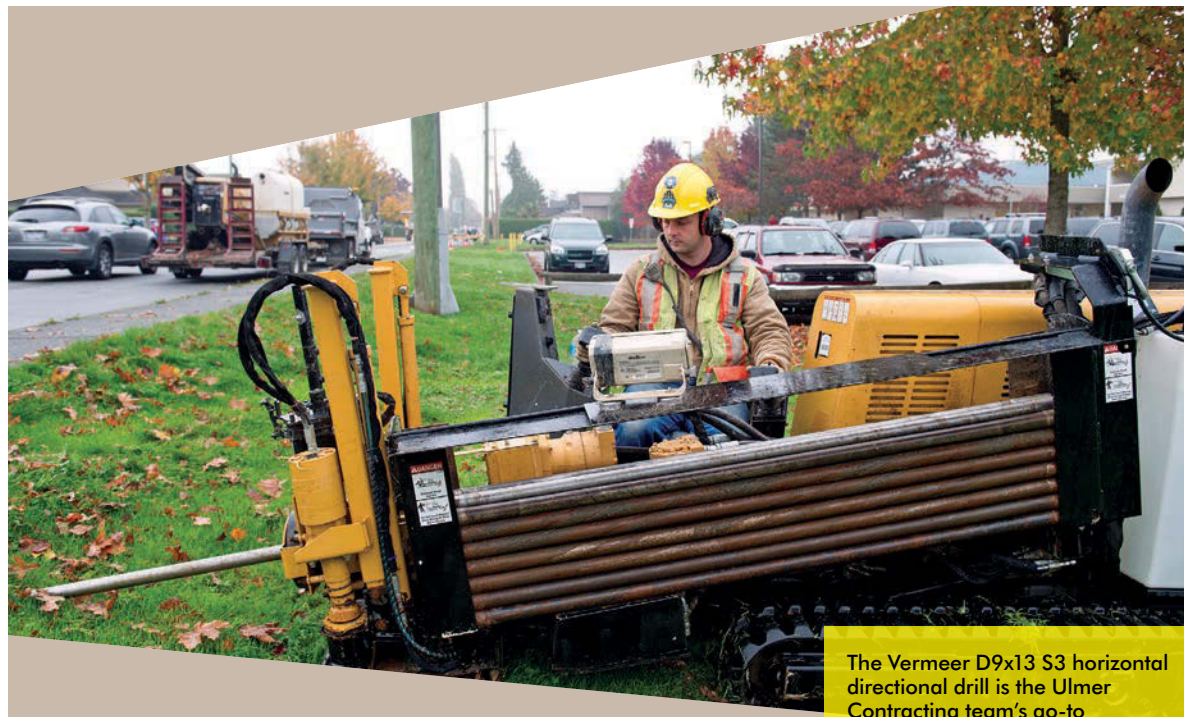
Although inexperienced drillers can be cheaper at face value, he adds, they are not necessarily cheaper in the long run because of the extensive damage that can be caused by hitting existing utility lines.

CHALLENGE ACCEPTED

Some of the main challenges faced by Ulmer Contracting include changing ground conditions and working around a network of existing utilities. Some get into ground conditions that they can’t get out of, he says, but as time goes on the equipment has evolved to the point where it has become more and more possible to tackle these tough environments.

During drilling operations, his crew has the ability and expertise needed to change the drilling fluids right along with changing earth conditions. “If you can do a tough job in tough ground, I kind of like that,” he adds. “The machines are so capable nowadays.”

To get the job done, Ulmer Contracting relies on Vermeer horizontal directional drills, including a 9x13 and 20x22; the company recently sold off its 24x40. The self-contained rigs are each capable of bore lengths of



The Vermeer D9x13 S3 horizontal directional drill is the Ulmer Contracting team’s go-to equipment for jobs big and small.

Small Package, Big Delivery

When asked which piece of equipment he has come to rely on and appreciate most, there’s no hesitation in Chuck Ulmer’s reply: “The 9x13,” he says. “The guys love it. They’d rather take that out there than all the other drills I’ve had. They just grab the 9x13. It’s small, it’s light and it’s easy. Everything you do is just easy.”

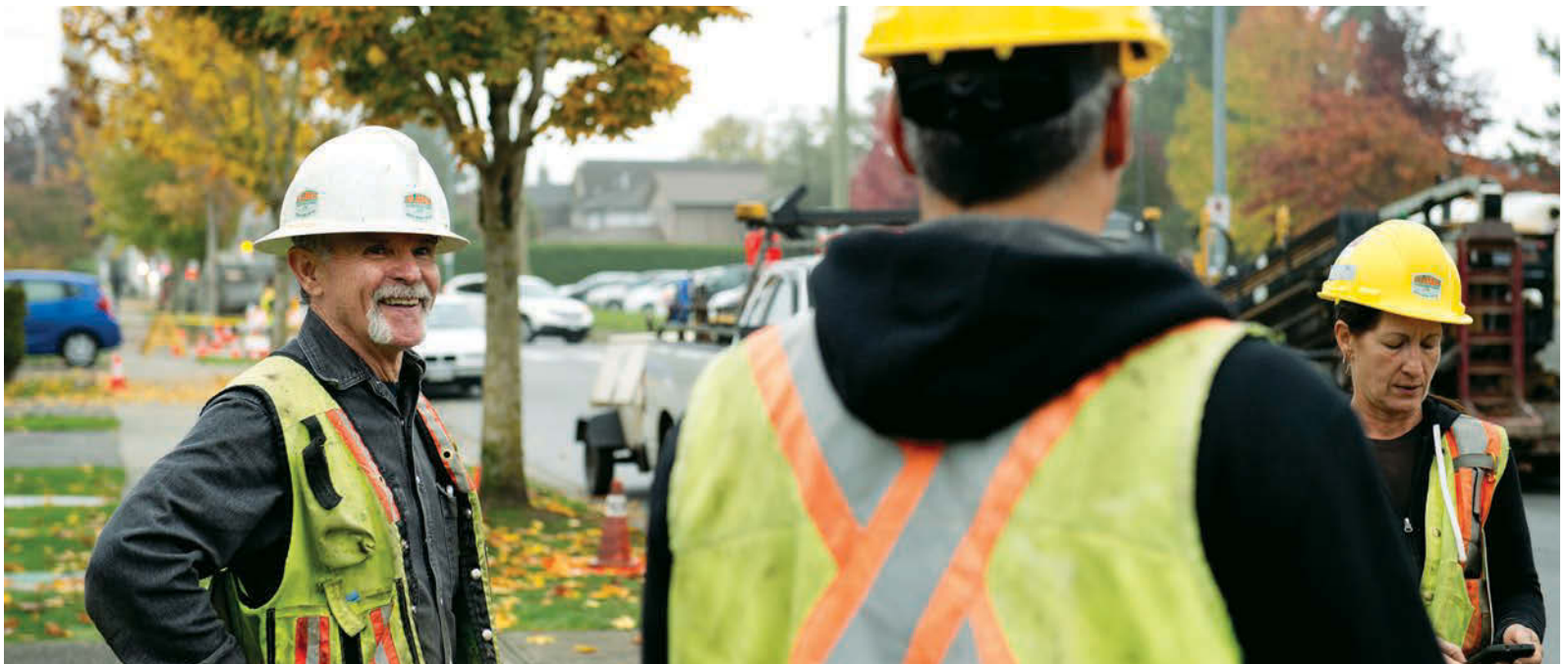
The Vermeer D9x13 S3 horizontal directional drill features a Kubota V1505-T-E4 diesel engine and boasts 9,000 pounds of thrust/pullback power along with a rotational torque rating of 1,300 ft-lbs. Standard features include a breakout system,

stakedown system, strike alert, remote lockout and operator presence.

A 26 percent increase in carriage speed over its predecessor means shortened cycle times and enhanced productivity. A maximum ground drive speed of 3.5 mph — a 37 percent increase over its forerunner — makes it a class-leader in that category.

“I do millions of dollars worth of work with it,” he says. “It’s just a small little piece of equipment, but if you put it in the right ground it’ll do anything you want. Anything. We just put a 16-inch plate in downtown Vancouver with it. What can I tell you?”

From left, Ulmer, Paul Stancic and Elena Bisognin prepare for a directional drilling project in Richmond.





The team at Ulmer Contracting includes, from left, Elena Bisognin, Paul Stancic, Chuck Ulmer and Nathaniel Shalay.



Crew member Paul Stancic paints a reference point while using a DigiTrak Mark III (Digital Control Inc.) to measure the location and angle of the horizontal directional drill's drill bit.

"WHEN YOU'RE A GOOD CREW, YOU SHOULD BE ABLE TO DO A LITTLE BIT OF EVERYONE ELSE'S JOB."

Chuck Ulmer

all sizes up to 1,000 feet of 10-inch-diameter HDPE pipe. A Komatsu backhoe rounds out the list of company equipment.

Ulmer says when it comes to his machinery, he ensures that they are cared for and respected above and beyond the norm. All electronics are sent in for regular calibration, maintenance and updates on software, and on-grade installations are completed with added accuracy using the company's survey experience and procedures.

"Nobody looks at them except for dealerships," he says. Although he admits he may pay a higher cost at dealerships, Ulmer says if a mistake is ever made it's corrected without question. He also says he appreciates the 30-year relationship he's been able to develop with his go-to dealership.

EXCITING WORK

Despite the get-it-done attitude and work ethic the company brings to its customers, Ulmer says when he considers the culture of his company, enjoyment is top of mind. "We have a lot of fun," he says. "The staff members know one another well, and there's a family-like feel that's developed over time."

Part of this translates into helping others have fun as well, he explains. When kids come up to take a look at the equipment, for example, he's quick to hand out a sticker and a traffic bag. "They have a blast with it. They love that stuff," he says. "Curiosity is unbelievable for these little fellas and girls." It's one thing to see the machines from afar or to see pictures in a book, he says, but seeing it up close and personal is a whole other ballgame. "I think that's what really gets them going."

Ulmer's own sense of curiosity and adventure has been kept alive and well through the chance to continue to take on new and inventive projects. The company is being called upon to see if they can get a small machine into a small hole in order to handle a large job, for example. "It's tough and you need combinations of stuff," he says. "You've got to work with people to do that."

"I really like the feeling I get when I receive calls from contractors to do unique jobs," he says. "I'm even getting calls to try new things to see if it works."

It's that type of challenge and the excitement that goes along with it that continues to keep Ulmer and the rest of his crew jumping out of bed every morning. ▼

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10 Maintenance Tips for Your Pipe Bursting Tools

PROPER PRE-JOB PLANNING AND SOME BASIC MAINTENANCE PRACTICES CAN KEEP YOUR EQUIPMENT WORKING HARD FOR YOU

BY KYLE ROGERS

According to the International Pipe Bursting Association, open-cut excavation can typically be reduced by at least 85 percent and sometimes as much as 95 percent when employing the pipe bursting method. And since it's a complete pipe replacement rather than a simple pipe rehab, it can be an attractive option when the job calls for it.

Here are some maintenance tips to keep in mind so your pipe bursting tools can stay a boon for your business and not become a headache.

1 BEWARE OF A COMPROMISED CABLE

Prior to tackling a job, it's important to inspect the length of the cable and look for any strands that are broken or frayed. Not only could an issue with the cable shut down a job, it's also a safety concern.

"We're mainly referring to static bursting where you're pulling a great deal of force on either a cable or a rod string, depending on the model you're using," says Brian Kelly, owner of Pow-r Mole. "If a rod string breaks or a cable parts, there are inherent safety issues. For example, the smallest machine we make pulls at 30 tons, and if any of those rod strings or cables part, that energy gets released."

If there are portions of a cable that are frayed, it should be cut off at that point and reterminated as a shorter cable or replaced with a brand-new one, Kelly says.

2 PREVENTING PREMATURE CABLE WEAR

To avoid cable wear, Kelly recommends taking good care of the jaw assembly.

"You don't want worn jaws because that's your first point of contact on pulling all that force," Kelly says. "And on cable machines, most will have a sheave, essentially a pulley, and that should always be inspected to make sure it's greased properly and turning with ease."

With a rod string, Kelly says operators should keep all threads clean to prevent excessive wear or damage. "And during the pipe bursting process, you should make sure all those threads marry up properly and completely."

3 THE PIPE-GRIPPING SYSTEM

The end result of a burst should be a new pipe pulled into place. That's why the pipe-gripping system is an important maintenance item. "You should make sure that's all lubricated properly and in good working order so you never lose the pipe that you're pulling in," Kelly says.

4 KNOW THE JOB

One of the best maintenance practices for pipe bursting tools is having a thorough understanding of the job that awaits you in order to head off any opportunities for equipment damage in the first place.

"Prior to performing the bursting process, identify any potential issues or areas like concrete pipe repairs that you could get stuck at," Kelly says. "That's why doing a video inspection is important, as well as gathering knowledge

from people who have worked with that system, whether it's the municipality or a property owner."

If you fail to identify such issues, you could be in store for an equipment breakdown.

"You need to know where there may be unbreakable repairs in a pipe because if you come to an immovable object and pull and pull, obviously something has to give," Kelly says. "You could either stall completely or if you have a slightly compromised cable, you could pull until you overstretch it and break the cable. If you know where there's an issue, you can stop immediately, dig at that point to resolve the situation, and then continue on with the burst. Acquiring knowledge is the most important factor in bursting."

"PRIOR TO PERFORMING THE BURSTING PROCESS, IDENTIFY ANY POTENTIAL ISSUES OR AREAS LIKE CONCRETE PIPE REPAIRS THAT YOU COULD GET STUCK AT."

Brian Kelly

5 KNOW THE MACHINE NEEDED FOR THE JOB

In addition to having sufficient knowledge about the job at hand, it's vital that operators also know what tools they'll need to successfully complete the job.

"If you're just running, say a standard non-fracturable pipe blade setup and you run into a valve, you could potentially damage your tooling because it won't be strong enough to break through a valve. You're going to have to run a specialized slitter," says Ryan Ley, service manager for HammerHead Trenchless Equipment.

Even if equipment damage doesn't come into play, not having the right machine for a job can hurt your business' bottom line.

"For example, more compact soils will need a bit larger bursting machine as far as static force than you would need with a standard soil," Kelly says. "So if you have a lot of shells or rock, you may need a larger piece of equipment than you're normally accustomed to for that diameter of pipe and material. Soil conditions can affect the profitability of a job greatly."

6 KEEP A SIMPLE ROUTINE

"Bursting equipment should always be cleaned thoroughly after each job, brought back into a shop environment, and all fittings and connections appropriately greased," Kelly says. "Anything to prevent excessive wear, just like any mechanical piece of equipment."

The main wear items that will need to be replaced from time to time are the rod string or cables and the jaw assembly. Staying on top of the inspection of those items and a simple post-job maintenance routine can go a long way toward equipment longevity. "For our equipment, we've had people use it for 15 to 20 years with no issues whatsoever," Kelly says.



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7

POWER SOURCE RECOMMENDATIONS

In static bursting, you're going to have a hydraulic power source running the equipment. Kelly says the maintenance for the power source is straightforward.

"Hoses are important to inspect to make sure there's not excessive wear so they don't burst and expel hot hydraulic oil. Then there's changing the oil in the engines and changing filters. I would always point to the manufacturing specs for the maintenance schedules because it varies depending on what the manufacturer uses whether it's Honda or Kohler or a Deutz diesel. They're all on different schedules."

8

INSPECT AIR HOSES

With a pneumatic bursting system, you'll be running an air compressor to operate the bursting tool. One of the most important maintenance items

there is the air hose. "Always be checking your air hoses to make sure nothing has rubbed through, that there are no holes," says Ley. "It's especially important on longer jobs, because the more air leakage you have the less performance you're going to get at the other end of the tool."

During a job, Ley says operators should make sure air hoses aren't encountering any sharp edges or rubbing on anything that would produce a leak. He also notes that oftentimes operators overlook the connections between hoses.

"You connect the hoses together and there's a gasket in there," Ley says. "A lot of times there can be a leak there and people don't really think about that because they have a big enough air compressor to get the job done. But

"IF THE PIT IS NOT WELL PREPARED AND JUST THROWN TOGETHER, YOU COULD EASILY DAMAGE YOUR EQUIPMENT."

Ryan Ley

you actually do lose some performance if you have air leaking out of connections. I've seen that quite a bit."

9

KEEP THE BURSTING HAMMER OILED

During a burst, Ley says it's important to make sure your tool is getting enough oil.

"Our equipment is actually designed so that if you need to, you can keep a tool running, bypass the tank on the oiler, and just keep filling it up with oil. You never want to run out of oil during a burst."

That's because oil can help prevent other maintenance issues.

"Typically, with pneumatic bursting, when you start seeing the hammer decrease in power is when you would do a service job on it," Ley says. "But if it's a well-oiled machine, and depending on the conditions, you may not have to change the wear rings in the hammer for quite some time."

10

PIT PREP

Though pipe bursting reduces the need for traditional digging considerably, every job will require at least one pit. That can play into equipment maintenance as well.

"If the pit is not well prepared and just thrown together, you could easily damage your equipment," Ley says. "People will use the pit wall as a load plate, and if that's not properly shored it could cave in. Then the machine could move around and create more of a headache for everyone, as well as being a safety issue." ▼

Read more tips on maintaining pipe bursting equipment online at digdifferent.com

Boring Through Bedrock

CONTRACTOR USES HORIZONTAL DIRECTIONAL DRILLING TO EXTEND SEWER SERVICE TO A HISTORIC ISLAND RESIDENCE

BY SCOTTIE DAYTON

The four-year Riverwalk and Wildlife Viewing Pier project undertaken by the City of De Pere, Wisconsin, included renovating the unoccupied locktender house and adding public restrooms. The De Pere Lock and Dam are listed in the State Register and National Register of Historic Places.

The house, built on a narrow dike called Government Island, had no septic system. To the east, the lock's canal separated the building from Voyageur Park on the mainland and the sanitary sewer 50 feet away in a major thoroughfare. The Lower Fox River flowed past the west side of the island and over the dam.

The only way to connect the lavatories to the sewer was to use horizontal directional drilling. General contractor Feaker & Sons Construction in Green Bay, Wisconsin, subcontracted Waas Boring and Cable in Lomira, Wisconsin, to drill under the river and through its limestone bed.

While wind, snow and temperatures in the teens and low 20s slowed the installation, it went as planned. The house received its first visitors during the project's grand opening celebration in May.

OVER THE RIVER

The city had ferried equipment to the island with a barge and was preparing to pull it out before the river froze. Feaker workers loaded a spool of tracer wire, a spool with 500 feet of 1 1/4-inch DR9 HDPE tubing, and an excavator on the barge, then journeyed across the canal. After off-loading the cargo, they dug a 10- by 6-foot-wide exit pit 8 feet deep at the back of the locktender house. As soon as the machine was back on the mainland, the barge left.

A restaurant, hotel and other structures along James Street prevented Vice President Randy Waas and his four workers from setting up the D100x120 Series II Navigator directional drill (Vermeer) directly across the canal from the house. "The closest we could get and still keep one lane open was an area just before the restaurant where traffic turned in off Front Street," says Waas. "Boring on an angle added considerable distance and another day to the job."

Staging the remaining equipment took up one lane of Front Street. Jammed together were a trailer-mounted twin tank MCM-4000 reclaimer (American

Snow covers the work site. The excavator stands ready to help move drill rod.



PHOTO COURTESY OF RANDY WAAS

PROJECT: Install 400 feet of 1 1/4-inch HDPE tubing through rock and under a frozen river

CUSTOMER: City of De Pere, Wisconsin

CONTRACTOR: Feaker & Sons Construction, Green Bay, Wisconsin

SUBCONTRACTOR: Waas Boring and Cable, Lomira, Wisconsin

EQUIPMENT: D100x120 Series II Navigator horizontal directional drill, Vermeer
888/837-6337 / www.vermeer.com

RESULT: Waste line installed

Augers), twin mud mixer and trailer-mounted vacuum excavator (Vermeer), and two flatbed trucks, each with 50 50-pound bags of bentonite.

The team's biggest challenge was locating utilities, communication lines and laterals from the hotel and restaurant. "The owner of the establishment wasn't sure where the clean-outs were, and they were hard to find buried under the snow," says Waas.



PHOTO COURTESY OF JIM KNEISZEL

A tarp enclosing most of the boring machine's operator station shelters Eddy Feught from the wind. The twin tank MCM-4000 reclaimer is behind him.

4 percent," says Waas. "To achieve that, we bored into the rock at 15 percent pitch and were 12 feet deep through the limestone bed before leveling off and boring 350 feet to the exit pit." A stake with an orange flag driven into a snow-bank marked the pit and served as a target for drill operator Eddy Feught.

Boring required an 8-inch rock bit with three rotating carbide bits attached to a 20-foot mud motor (progressive cavity positive-displacement pump). "The diameter seems like overkill for a 1 1/4-inch waste line, but if we went any smaller, the bits wouldn't withstand the pressure and difficulty of drilling through rock," says Waas.

Workers added bentonite and water to the mud mixer, then pumped the drill fluid at 140 to 150 gpm through the drill pipe to rotate the mud motor. As the drill material returned to the bore pit in front of the machine, it was pumped to the reclaimer, which filtered fines from the bore and recycled the fluid.

"The reclaimer has two screens, each with a shaker that distributes debris to the side for disposal," says Waas. "The important thing is to add more bentonite when the mixture thins out, and that depends on the density of the rock." The bore averaged 30 feet per hour and took a day.

"THE DIAMETER SEEMS LIKE OVERKILL FOR A 1 1/4-INCH WASTE LINE, BUT IF WE WENT ANY SMALLER, THE BITS WOULDN'T WITHSTAND THE PRESSURE AND DIFFICULTY OF DRILLING THROUGH ROCK."

Randy Waas

WHEN THE WIND BLOWS FREE

The cold and heavy clothing made work arduous and slow. A tarp enclosing most of the boring machine's operator station sheltered Feught from the wind, while a Torpedo heater (Grainger) at his feet blew warm air.

"Unless it's below zero, we can drill," says Waas. "The men dress for the cold and are acclimated to winter. As long as the pumps keep circulating the drill fluid, it won't freeze."

Atlas Bore Planner software (Vermeer) projected a map on a computer monitor delineating the path Feught would follow. To ensure that the bore maintained pitch across the canal, Eric Feught used a DigiTrak Eclipse locator (Digital Control) to track the sonde on the mud motor. Being an avid ice fisherman, he tested the thickness of his footing with a probe before marking the sonde's location in pink paint. The ice averaged 12 inches thick.

The 12-hour bore used 1,250 pounds of bentonite. After replacing the mud motor with a pulling head, draining fluid from all the equipment and adding antifreeze, the team climbed into the truck with crew cab for the 75-minute ride back to the shop. "Working in the snow didn't bother us," says Waas. "The most difficult part was the long drive back and forth in darkness on heavily traveled sloppy or icy roads."

PULLBACK

Beginning at 7 a.m. the next day, Eddy Feught began pulling back 400 feet of tubing, which took several hours. On the island, Tim Stieve of Waas Boring and Cable fed the tubing into the exit pit as two others unrolled it from the spool and worked out the kinks. While Feught pulled in the mandatory tracer wire, Feaker ran the tubing into the house and connected it to a grinder pump, installed by a company representative. "Our job was done," says Waas. "We washed the equipment, added antifreeze, loaded everything and moved out."

Feaker excavated 20 feet south from the bore pit, set a manhole at the junction of James Street and Front Street, and tied in the tubing. They excavated 30 feet to the sanitary sewer in Front Street and ran a 4-inch gravity lateral to it from the manhole. After backfilling everything with concrete slurry, they laid temporary asphalt for the winter. ▼



PHOTO COURTESY OF JIM KNEISZEL

Tim Stieve of Waas Boring and Cable feeds the 1 1/4-inch HDPE tubing into the exit pit at the back of the locktender house.

Using the vacuum excavator with 1,200-gallon spoils tank and 5 1/2 gpm/3,500 psi water pump, the crew potholed to expose and verify the laterals and other lines. When all were located, Feaker used its excavator with a frost hook to break through 36 inches of frozen soil and dig the 5- by 6-foot-wide bore hole 4 feet deep. The preparatory work took three days.

MUD MATTERS

"When drilling horizontally through rock, the pitch can change only 3 to



PHOTO COURTESY OF RANDY WAAS

Eric Feught of Waas Boring and Cable uses a DigiTrak Eclipse locator to track the sonde on the mud motor as it bores beneath the frozen Lower Fox River. He marks its path with pink paint. Only the excavator's red arm gives away the location of the drill rig in the background.

Refusing to Cut Corners

ONTARIO HYDROEXCAVATION CONTRACTOR RIDS SELF OF TRADITIONAL PAVEMENT CUTTERS

BY MARSHALL POLLOCK

Super Sucker Hydro Vac Service, a hydroexcavation contractor with locations across southern and southwest Ontario, has always had a focus on safety for its employees.

"Safety has always been job No. 1 for our company and for our employees," says Dan Bartels, operations manager for the company. "The hydrovac process has been proven to be safer for the buried infrastructure we locate. However, conventional methods of hard-surface excavation have become a safety concern for our employees. We needed to find a better, smarter, safer way to perform pavement cuts."

Conventional pavement cutting tools like concrete saws, jackhammers, pavement breakers and backhoes can bring peripheral damage to the roadway, sunken temporary patches, greater delay and inconvenience to the traveling public, and pavement utility cuts that sink or crack and never heal.

KEYHOLE CORING

But worker safety is the most important issue. More than half of the injuries to construction workers are musculoskeletal disorders, or repetitive stress injuries to the hand, wrist, arm, elbow, shoulder and back. This is a real concern for employees tasked with breaking out utility cuts using a jackhammer that may often weigh 90 pounds.

For hydroexcavation operators, cutting through pavement is a necessary evil all of them regularly face. Super Sucker used to contract out pavement saw cutting to those who specialize in this type of service.

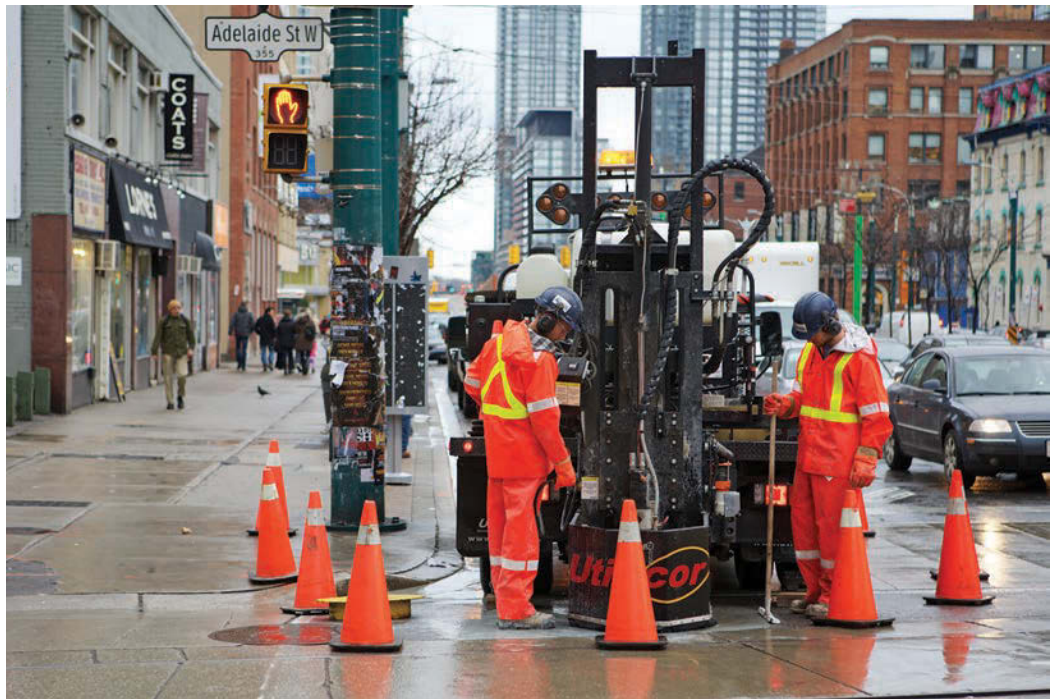
"CONVENTIONAL METHODS OF HARD-SURFACE EXCAVATION HAVE BECOME A SAFETY CONCERN FOR OUR EMPLOYEES. WE NEEDED TO FIND A BETTER, SMARTER, SAFER WAY TO PERFORM PAVEMENT CUTS."

Dan Bartels

"These traditional methods of pavement removal and repair were just not working for us," Bartels says. "The subcontractor was completing only half the job. The physically demanding work of jacking out the pavement was left to our crews, and I can tell you nobody was putting their hand up to be on the wrong side of those jackhammers. That's when we added keyhole coring and reinstatement to our suite of services."

The contractor called in Utilicor Technologies, a manufacturer of keyhole coring equipment, to demonstrate the keyhole coring process.

"They cut four 18-inch-diameter cores, 12 inches deep, through compos-



Super Sucker Hydro Vac Service of Ontario uses a Utilicor keyhole coring drill to cut an 18-inch-diameter core from the roadway in order to perform hydroexcavation duties.

ite pavement in less than an hour," says Bartels. "Doing it the way we used to could take us all day and involve a huge amount of manpower and equipment, not to mention the wear and tear on the backs of our employees. Now, in less than an hour, we had completed four pavement cuts with four perfect cores sitting at the side of the road, and were able to get down to our real work of vacuum excavation to expose the buried infrastructure. We were impressed, and our customer was too."

THE PROCESS

With a purpose-built, hydraulically driven coring unit, the keyhole coring process became simpler, easier and safer for the worker. After the core has been cut to the full depth of the pavement (up to 22 inches deep), it is safely removed from the roadway using a special core puller tool and set aside.

Hydroexcavation follows to expose the buried infrastructure, allowing the underground work to be safely performed from the surface of the road.

"Today, keyhole coring and reinstatement is seen as a smarter, safer, environmentally friendly and more cost-effective way of performing and repairing utility cuts," says Colin Donohue, vice president of field operations for Utilicor. "Because it is faster than other methods, it makes business sense to hydrovac utility contractors who are always operating under time and pres-

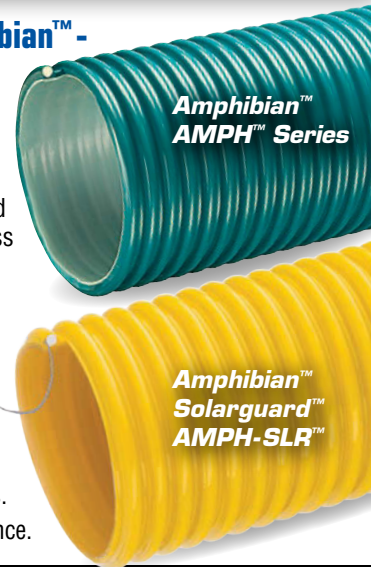


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"BECAUSE IT IS FASTER THAN OTHER METHODS, IT MAKES BUSINESS SENSE TO HYDROVAC UTILITY CONTRACTORS WHO ARE ALWAYS OPERATING UNDER TIME AND PRESSURE FROM BOTH THE CLIENT AND THE MUNICIPALITY."

Colin Donoahue

sure from both the client and the municipality, anxious to get the job done quickly and anxious to reopen the road for traffic. And from a safety perspective, it saves the worker from unnecessary repetitive strain injuries and saves the road from being damaged. It is a true win-win technology."

But the real magic, according to Bartels, was the realization that they could repair the utility cut by reinstating the core, and that repair was both permanent and final.

"Reinstating the same core back into the roadway was the icing on the cake for us," Bartels says. "In the past, we had to babysit the temporary patches we installed — inevitably getting callbacks at the most inopportune times. Crews would need to be dispatched to add another load of cold patch. Core reinstatement put an end to that problem."

With keyhole coring and reinstatement, after the underground work has been completed and the hole backfilled to the base of the pavement, that same core of pavement can be permanently bonded back into the roadway with a specially designed, super-strong, fast-setting bonding compound that will support a wheel load five times greater than the AASHTO Standard, and allow the road to be safely reopened to traffic in just 30 minutes after the core has been reinstated.

The reinstated core is a permanent waterproof repair that matches the existing pavement and results in a paved surface that, in just minutes, has been restored to its original, pre-excavation, design-load carrying capacity.



An 18-inch-diameter core is extracted from the roadway by a Utilicor keyhole coring drill at a hydroexcavation job site.

THE ADVANTAGES

For the contractor, the advantages of coring and reinstatement are almost too numerous to mention. No callbacks for sunken patches. No trip-and-fall hazards for pedestrians. No tooth-jarring potholes for vehicular traffic. No punitive charges for paving cutbacks or slurry treatments, and all of this accomplished by an environmentally friendly construction practice that boasts a carbon footprint up to 12 times lower than conventional methods.

Add to these a work process that is safer for employees and has minimal pavement restoration cost, as well as shorter road closures for positive community relationships, and you have a construction process that makes sense for everyone — and dollars for the utility contractor.

ABOUT THE AUTHOR

Marshall Pollock is the president and CEO of Utilicor Technologies. ▼

Where to Cut and Where to Spend?

EXPERTS SAY DUMP PHONE BOOK ADVERTISING AND LOOK TO SOCIAL MEDIA AND HELP FROM BUSINESS PROFESSIONALS TO BUILD PROFITABILITY

BY ERIK GUNN

Trying to digest and implement business advice can be like trying to fill a squirt gun from a fire hose. There's no shortage of information to act on, but it comes at you so fast most of it will be wasted.

Spend more on this! Stop wasting money on that! And so on. So where do you start?

To help get some focus, I asked a number of small-business owners and consultants in a wide range of fields what top costs they would recommend cutting back on and what top things they would recommend spending more on.

As you can probably guess, they didn't all agree; some directly contradicted each other. Still, there was a surprising degree of consensus. Read on.

WHERE TO CUT COSTS

1. Traditional marketing channels. "Spend more on the Yellow Pages!" ... said none of these people, ever!

Local print advertising and TV and radio ads are all losing their audiences — although if you have concrete evidence to the contrary for your business, you might have reason to set aside this advice.

"YOU HAVE TO MARKET YOUR PRODUCTS AND SERVICES IN SUCH A WAY THAT YOUR MESSAGE RESONATES WITH THE PROBLEMS OF YOUR TARGET MARKET AND IDEAL CUSTOMER, AND CONVINCES THEM THAT YOU ARE THE ONLY ONE WHO CAN SOLVE THAT PROBLEM FOR THEM."

Walter Wise

The bottom line, says William Schroeder, co-director of justmind.org, an Austin, Texas, therapy clinic, whose original degree is in marketing: Get a clear picture of how people really are finding out about your service, then focus your dollars on those channels.

"Social media is easy and cheap for an owner to keep updated."

2. Paper and paperwork. There are many ways you can significantly reduce your paperwork.

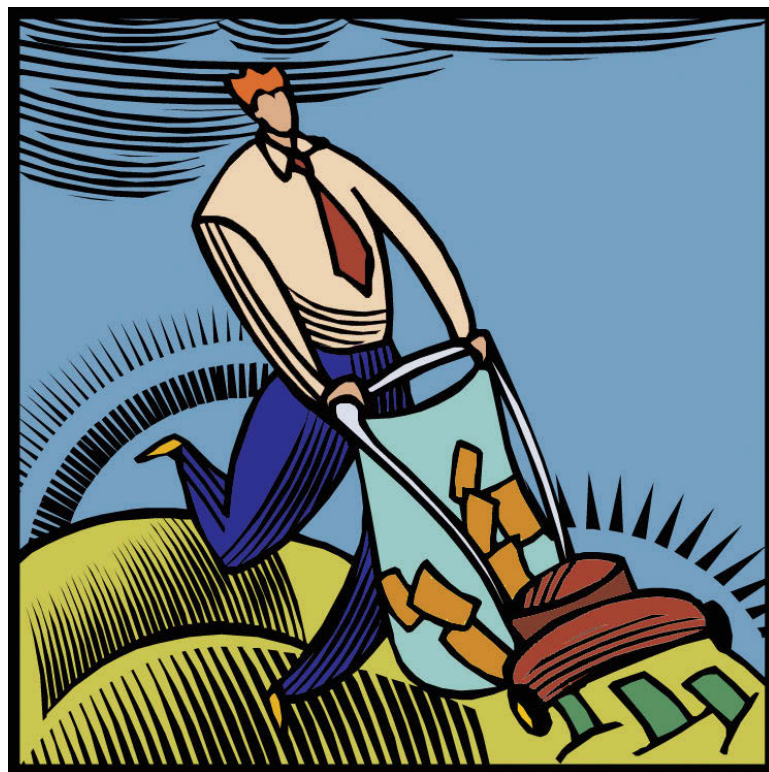
"There is really little reason to use paper anymore," says Kelly Fallis, CEO of Remote Stylist, an online furniture seller. Electronic signing, credit card swipe gadgets that attach to mobile phones or tablets, and vast storage capacity on the Web (or, if you don't trust the Internet, on a

server that takes up just a few inches of shelf space in the office) all combine to eliminate the need for paper in most day-to-day business use.

WHERE TO SPEND MORE

1. Tailored marketing. Your business still needs marketing of some kind. Rather than only focusing on your local hometown advertiser, broaden your efforts to include search engine ads, ads on review sites like Yelp, and social media such as Facebook and Twitter.

Don't assume that one size fits all — for you or your customer base. That also means, don't just blithely throw money in any direction.



Instead, take some time to explore your options and see which ones best fit your community and your customer base. You might find that Yelp isn't that popular in your area, but another review site is. Or that Google Plus has outstripped Facebook among social media users in your community — or at least among the segment of the population you're most eager to reach.

Don't just use your ads to toot your own horn. "Start creating client-specific content," says James Chalmers, vice president for strategy at Mako Invent, a consumer-product development firm. "Not a sales pitch, but rather information that educates them."

There's some dispute over how much attention you should give to search engine optimization — SEO for short.

One correspondent points out that SEO formulas change drastically when search engine companies like Google tweak their search algorithms — and send your carefully crafted online promotional material to the bottom of the search lists.

Yet local SEO is important for services that rely mainly on a local customer base. Here the best advice may be to take your time vetting the people who sell you their services. Make sure they really understand not only your business, but their own.

2. Employee quality. Note, I didn't just stop with "employees." You'll be wasting money if you simply hire people but fail to invest in their training, in making your business a satisfying and rewarding place to work, and in giving

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them the tools they need to do the job right the first time.

"Make sure your staff and teams are taken care of and happy," says Chalmers. "They are your best sales team, and productive staff people cut costs in the long run!"

3. Professional help where you need it. Unless you have a CPA, a law degree and a human resources management certification on your resume, you can't do these things all by yourself.

Sure, you can automate a lot of your bookkeeping operations — and you should. But don't just rely on Mint.com or QuickBooks any more than you would assume that you can take care of your health and your family's health by reading Web M.D. or the Mayo Clinic website.

"You also need to pay for people who are good at numbers," says Haroon Ahmad, head of public relations for JotForm, a tech company that builds business forms online. "You need to pay for an accountant. You might be great in your line of work, but you can easily lose all your money if you don't have someone who's good with numbers working your books."

The same is true for other professional expertise, especially in any aspect of the business that can be affected by local, state or federal laws.

It's also true for marketing.

"You need to spend your time and effort on doing those things that grow your business," says Walter Wise, a business strategist and executive coach at BPI Strategy Group. "If you are not good at any of these — and most small-business owners are not — find someone to help you and teach you how to do them."

"You have to market your products and services in such a way that your message resonates with the problems of your target market and ideal customer, and convinces them that you are the only one who can solve that problem for them."

And that will be money well spent.

ABOUT THE AUTHOR

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

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4 Days to Make Your Business Better

THE WATER & WASTEWATER EQUIPMENT, TREATMENT & TRANSPORT SHOW PROMISES GREAT VALUE AND OPPORTUNITY FOR YOUR BUSINESS

BY LUKE LAGGIS

Last year, the Water & Wastewater Equipment, Treatment & Transport (WWETT) Show was spilling out of the exhibit hall at the Indiana Convention Center. This year, it's pouring into Lucas Oil Stadium.

It all gets started like it does every year, with the industry's best slate of education courses. The show returns to its Wednesday-through-Saturday schedule this year, so Education Day will be held Wednesday, Feb. 17.

A day in the classroom may not sound like the most exciting part of your trip to Indianapolis, but it could be the most valuable. Presenters from the industry's top manufacturers and associations will lead a wide variety of classes, covering everything from septic myths to small-diameter pipe cleaning. There are more than 50 classes on Wednesday alone.

"IT'S GOING TO BE VERY IMPRESSIVE WHEN THE LIGHTS TURN ON AND THE DOORS OPEN FOR SHOWTIME."

Brad Bisnette

When class lets out, the party gets started. Just take the short walk over to Lucas Oil Stadium — it's connected to the convention center — for the 2016 WWETT Show Kickoff Party. Relax, check out the exhibitor sponsor displays, and enjoy a cold beverage and complimentary hors d'oeuvres while networking with manufacturers and peers.

"One of the main requests we receive from attendees year in and year out is for more networking opportunities," says show coordinator Brad Bisnette. "The Kickoff Party presents this opportunity and does so in a very unique, convenient and exciting atmosphere."

The show really ramps up on Thursday when the exhibit hall opens. Every year, products introduced at the show become important components in many industry professionals' toolboxes and equipment fleets. More than 9,400 peo-

ple representing 4,200 companies and 54 countries attended the 2015 show, with 597 exhibitors nearly spilling out of the exhibit hall.

This year, it's going to be even bigger, encompassing all 560,000-plus square feet of exhibit space at the Indiana Convention Center, in addition to the classrooms, stadium and the Sagamore Ballroom.

"Right now it's a daily challenge trying to figure out how we're going to fit this much equipment on the floor," Bisnette says. "It's going to be very impressive when the lights turn on and the doors open for showtime."

When that moment comes, take your time and scope out the floor. There's a ton to see, and you can't get to all of it in one day. Plus, there are dozens more education courses on Thursday, and you'll want to take advantage of those opportunities. It's the perfect day to take another class or two, give yourself an overview of the show floor and formulate a plan to get everything you need out of the next two days. And when the floor closes, you can head back to Lucas Oil for the second night of the Kickoff Party.

 Feb. 17-20, 2016
Indiana Convention Center
wwett 16
Water & Wastewater Equipment, Treatment & Transport Show



OPPOSITE PAGE: Hands-on exhibits, educational seminars, Kickoff Parties and an Industry Appreciation Party await attendees at the 2016 Water & Wastewater Equipment, Treatment & Transport (WWETT) Show.

"THE KICKOFF PARTY PRESENTS [NETWORKING OPPORTUNITIES] IN A VERY UNIQUE, CONVENIENT AND EXCITING ATMOSPHERE."

Brad Bisnette

Friday brings more education and another full day on the exhibit floor, with a chance for you to zero in on the tools, equipment and conversations that can make a difference for your business.

In addition to being a huge day at the show, Friday is also the biggest night, with the Sagamore Ballroom doors opening at 5 p.m. for the annual Industry Appreciation Party. In addition to 25-cent tap beer and a fun, laid-back atmosphere, country music star Jerrod Niemann will perform. Niemann's hits include "Blue Bandana," "Drink to That All Night" and "Lover, Lover."

Just make sure you don't really drink to that all night, because Saturday is the final day of the show and your last opportunity to see everything that makes it great.

Don't forget, there's also plenty to do outside the show. Indianapolis is a fun and accommodating city with dozens of museums, entertainment venues and shopping opportunities, along with hundreds of restaurants within walking distance of the convention center. And with 4,700 guest-rooms connected to the Indiana Convention Center via covered and heated skyways, weather won't be an issue.

The 2016 WWETT Show will be held Feb. 17-20 at the Indiana Convention Center in downtown Indianapolis. 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 www.wwettshow.com. ▼

Time to Unwind

COUNTRY MUSIC SINGER JERROD NIEMANN READY TO GIVE WWETT SHOW ATTENDEES, EXHIBITORS A FUN NIGHT

BY CORY DELLENBACH

It doesn't matter if you're a country music fan. Jerrod Niemann is going to pull you in when he hits the Industry Appreciation Party stage Feb. 19.

"You have to be aware of what you're around," says Niemann, country music star and entertainer for the party. "If you're doing your own show or people are there just because of you it's one thing," Niemann says. "If you are part of a party that has already existed for many years, we try to be a chameleon of sorts. We'll do our own songs, but we'll also throw in a couple different ones, too, from rock and blues and everything."

No matter what he sings, Niemann promises a fun time for everyone at the Indiana Convention Center's Sagamore Ballroom.

"There's just something to be said about being around people who are pretty much just like you — hardworking, small-town Americans," Niemann says. "For me, I love being out there and hanging out with everybody."

IN HIS BLOOD

Country music has always been in Niemann's blood, and he thanks his mother for that: "I was doomed from the beginning hearing country music from the womb. My parents ran a bar when my mom was pregnant with me, and I think hearing all those country songs on the jukebox got me going."

From an early age, Niemann was influenced by country acts such as Lefty Frizzell, Keith Whitley and George Strait. After graduating from high school, he attended South Plains College in Levelland, Texas, pursuing an Associate of Arts degree. He began his professional career by singing and playing acoustic guitar in Texas clubs and bars.

"I did that for about a year, just my guitar and me," he says. "Then I moved to Nashville and started working out there. Music is one of those things where it's such an amazing thing to be a part of that once you've been bitten by the bug, there is no way out of it. It's just who you are."

In 2010, Niemann signed with record label Arista Nashville and released his debut single, "Lover, Lover." It became his first Top 40 single on the country music charts, and in August 2010 it hit No. 1.

Since then, Niemann has released four albums — *Judge Jerrod & the Hung Jury*; *Free the Music*; *Yellow Brick Road*; and *High Noon*. In 2013, his single "Drink to That All Night" hit No. 4 on the U.S. country charts and No. 1 on U.S. country airplay charts.

"I got my foot in the door writing songs in Nashville, and it's always fun being able to write your own material," Niemann says. "Every once in a while you find a song you wish you had written."



THE BASICS

What: Industry Appreciation Party at the Water & Wastewater Equipment, Treatment & Transport (WWETT) Show

When: Friday, Feb. 19 (5 p.m. doors open, 7 p.m. music starts)

Where: Sagamore Ballroom, Indiana Convention Center, Indianapolis, Indiana

NEW MUSIC

One of those songs is "Blue Bandana," his newest single, released in July. The song will be a part of his new album set for release later this year.

"When I heard the song, it just took me to so many cool places and really took me to a lot of cool faces, too," Niemann says. The song tells the story of a fan attending concerts wearing the same blue bandana and the singer noticing it each time. "Just traveling this country you see a lot of people who are kind enough to pack up in their cars and do a road trip, spending their hard-earned money to see us. I've never really done a song that is a thank-you to those folks out there, but this song does that."

The new album will combine music he's done before — a country/rock mix — and the more traditional country sound. "It's a wide array of music," Niemann says.

He'll perform some of the new songs from that album at the WWETT Show and hopes everyone can relax and get their minds off work and anything else going on in their lives.

"The real world can be quite a hard place at times for people, and if we can be the guys to get that off their minds for at least 90 minutes, then we've done our jobs," Niemann says. "I just always try to keep a thread of laughter and craziness at our shows if we can." ▼

THE LATEST: Products



2



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11



12



13

1. Atlas Copco hand-held breakers

Cobra PROe and TTe gas-powered, hand-held breakers from Atlas Copco are available with two tool shank sizes (1 1/8 by 6 inches and 1 1/4 by 6 inches). Features include multiple vibration-reducing systems to enhance productivity. The Hand Arm Protection System minimizes vibration transfer to the operator. The PROe delivers 1,440 blows per minute and up to 44 ft-lbs of impact. The TTe delivers 1,620 bpm and up to 30 ft-lbs of impact. **800/732-6762; www.atlascopco.us.**

2. Hyundai HL Series wheel loaders

The HL900 Series (HL940, HL955, HL960, HL970, HL980) of Tier 4 Final-compliant wheel loaders from Hyundai Construction Equipment Americas deliver up to 5 percent greater productivity and 10 percent lower fuel consumption than previous 9A Series loaders. The cab is 10 percent larger than previous models and has been reconfigured for additional floor space and visibility. Features include 7-inch interactive touch-screen monitor, optional fingertip controls, fully adjustable and heated air-ride seat, and centralized control switches. **877/509-2254; www.hceamericas.com.**

3. Komatsu Tier 4 Final wheel loader

The WA380-8 wheel loader from Komatsu features a 6.69-liter 191 hp Komatsu SAA6D107E-3, variable-geometry turbocharged and aftercooled Tier 4 Final diesel engine that uses 6 percent less fuel than its interim predecessor. SmartLoader Logic software combines with a lockup torque converter that activates in second, third and fourth gears. Together, the system provides optimal engine torque for improved acceleration, hill climbing, higher top speed and fuel savings. **847/437-5800; www.komatsuamerica.com.**

4. KOHLER Mobile Paralleling Box

The Mobile Paralleling Box from KOHLER Power Systems enables users to combine different size generators with different fuel types. Designed for use with KOHLER's gaseous and diesel mobile generator line, four boxes can be used to parallel up to eight generators. The KOHLER Decision-Maker 3500 digital controller, standard on all KOHLER gaseous and Tier 4 Final diesel mobile generators, provides the paralleling intelligence and network communications. **800/544-2444; www.kohlerpower.com.**

5. Vermeer horizontal directional drill

The D24x40 S3 horizontal directional drill from Vermeer features 28,000 pounds of thrust and pullback with 4,200 ft-lbs of rotational torque. The drill has an operator ear rating of 82.9 dBA, carriage speed of 240 fpm and rotational speed of 253 rpm. It is powered by a 125 hp, liquid-cooled, turbocharged diesel John Deere 4045 4.5-liter Tier 4 engine. **641/628-3141; www.vermeer.com.**

6. Benlee roll-off trailer backup alarm

The backup alarm is available on Benlee roll-off trailers, roll-off trucks, dump trucks, crushed car trailers, pup trailers and open-top gondola trailers. The 8-inch mechanical device is made from zinc-plated 10-gauge steel for durability and low maintenance. **734/722-8100; www.benlee.com.**

7. McLaughlin truck-mounted vacuum excavator

The MEGA VX200 truck-mounted vacuum excavator from McLaughlin features a spoils tank capacity of 1,200 to 3,000 gallons and the option of 800 gallons of freshwater. The excavator has a 6-inch hose diameter and a 3,200 cfm blower at 18 inches Hg. The tank, power pack and water system have a modular design, enabling the contractor to mount the unit on a new or repurposed chassis. Powered by a 200 hp John Deere Tier 3 engine, the unit has a three-stage cyclonic filtration system that allows for wet and dry vacuum excavation. A cam-over hydraulic door provides a 360-degree positive seal. **800/435-9661; www.mclaughlinunderground.com.**

8. Water Cannon poly drive pressure washers

Poly drive pressure washers from Water Cannon are made for commercial and industrial cleaning applications. Features include laser-aligned Gates poly drive belt system, flat-free oversized tires, powder-coated steel frame, onboard 15-gallon fuel tank, GX Honda twin-cylinder gasoline engine and removable roll cage with hose reel platform and 250-foot-capacity reel. Accessories include tank-feed plumbing on 8 gpm model, gun/wand assembly with quick connects, 50-foot high-pressure hose with quick connects and four color-coded QC spray nozzles. **800/333-9274; www.watercannon.com.**

9. HammerHead Trenchless Equipment Sidewalker piercing tool

The Sidewalker from HammerHead Trenchless Equipment is a piercing tool designed for installing short utility runs beneath landscaping, driveways and sidewalks. Upgrades to the 2 1/2-inch and 3-inch models have increased efficiencies in design and pneumatics, including the quarter-turn Power Port Reverse feature, which boosts impact power by up to 25 percent. **800/331-6653; www.hammerheadtrenchless.com.**

10. Ring-O-Matic pull-behind jet/vac combo

The 550 dual pump combination sewer line jetter and vacuum excavator from Ring-O-Matic fits into spaces too confined for truck-mounted combination rigs. Powered by an 81 hp Cat turbo-diesel engine, the jet/vac has a 1,000 cfm blower and can deliver 27 gpm at 2,700 psi up to 400 feet with its 3/4-inch hose. The trailer's axles are rated to 16,000 pounds, enabling the 550-gallon spoils tank and 500-gallon freshwater tank to be pulled behind a 3/4- or 1-ton truck. **800/544-2518; www.ring-o-matic.com.**

11. New Holland compact wheel loaders

C Series compact wheel loaders from New Holland Construction feature Z-bar linkage on models W50C, W80C and W80C HS for increased breakout force, digging and lifting power. The parallel lift path of the

W50C TC eliminates the need for manual correction. Designed to scrape, grade, push, rake and haul, all four models are powered by Tier 4 engines. Options include high-flow hydraulics (W80C only) that deliver 34 gpm at 2,900 psi, auto ride control, creep speed for applications that require slow and steady control, high-speed (W80C only) and return-to-dig that returns the bucket to the dig position after dumping with the push of a button. **630/260-4000; www.newhollandconstruction.com.**

12. Doosan Portable Power air compressor

The utility mount P186 air compressor from Doosan Portable Power delivers 185 cfm free air and has a rated operating pressure of 100 psi. Features include full-sized locking doors for easier fluid and filter inspection. A lower-positioned service air port and eye-level access to all controls and monitoring gauges ensure operator safety and convenience. The compressor is powered by a Tier 4 Final-compliant 49 hp Doosan D24 engine with diesel oxidation catalyst aftertreatment system. **800/633-5206; www.doosanportablepower.com.**

13. Bayco dual-light headlamp

The Nightstick NSP-4608BC dual-light, multifunction LED headlamp with helmet lamp bracket clip from Bayco Products features five lighting modes, including a spotlight for distance and floodlight for close-up illumination. Powered by three AAA batteries, the headlamp is water rated to IP-X7 water rating, has a 2-meter drop rating, and weighs 3.4 ounces. The high spotlight brightness mode is rated at 100 lumens for five hours. Low mode emits 90 lumens for 13.3 hours. High floodlight mode emits 60 lumens for 4 1/4 hours and 50 lumens for 13 3/4 hours in low mode. Dual-light mode delivers 180 lumens for 2 1/2 hours. **800/233-2155; www.baycoproducts.com.** ▼

This Issue's Feature:

Vactor HXXpose nozzle provides extended coverage with same amount of water

BY ED WODALSKI

The HXXpose nozzle from Vactor Manufacturing, designed for potholing and most hydroexcavation applications, is standard on all new Vactor HXX units and compatible with the company's line of vacuum excavators as well as other makes and models of vacuum excavation trucks.

Designed for increased productivity and operator safety, the nozzle takes its name from a combination of "expose" and Vactor's HXX hydroexcavator brand. The nozzle's rotating water jet can agitate a larger area with the same amount of water as a straight jet nozzle. Blasting a zero degree stream of water rated for pressures up to 3,200 psi, high-speed rotation enables the nozzle to provide an 18-degree cone of coverage.

The nozzle has a minimum inlet pressure of 1,000 psi and maximum water temperature of 180 degrees F. It features tungsten carbide internals and a 1/2-inch, corrosion-resistant FNPT stainless steel casing and urethane outer coat-



ing to protect the operator and underground utilities from electrical conduction.

"The bright, nonconductive coating and simple rebuild process of the interior assembly are key features," says Michael McClure, product manager parts and accessories, Vactor Manufacturing.

The thickness of the coating and the ability to rebuild internal workings extends nozzle life. Rebuild kits can be used on any base nozzle, enabling it to be rebuilt to any desired flow rate.

800/627-3171; www.vactor.com



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PROJECT SNAPSHOT

Dig Indy

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The Dig Indy project is a 28-mile-long network of 18-foot-diameter tunnels being built 250 feet under Indianapolis, making it the largest public works project in the city's history. The project begins near the Indiana State Fairgrounds on the north side of the city and will end on the south side. The tunneling system will create a collective, underground storage and transport facility for wastewater. Work is being done by Shea-Kiewit Joint Venture using a tunnel boring machine built by The Robbins Company in the late 1970s that has since been rehabilitated. The first section of the tunnel is already dug and is currently being lined. That segment of the project should be completed by 2017. The overall project is scheduled to be done in 2025. To read more about this project, go to www.digdifferent.com/featured. ▼



Let us show off your project!

Send photos of a current project (hydroexcavation, trenching, tunneling, directional drilling, utility locating, pipe bursting or similar nontraditional excavation)

showing your equipment and crew on site.

Include name, company name, mailing address, phone number and details (what you are doing, equipment used, time expected on the project and anything difficult or unique about it). Email to editor@digdifferent.com or mail to Editor, Dig Different, P.O. Box 220, Three Lakes, WI 54562. We look forward to hearing from you.

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THE LATEST: News

National Trench Safety to open Denver branch location

National Trench Safety (NTS), a Houston-based company specializing in rental and sales of trench and traffic safety equipment, trench and traffic safety engineering and OSHA-compliant training classes, recently announced it is expanding its business to Denver. The Denver branch of NTS will be the 26th branch location for the company and will be managed by Richard Hearn, who most recently managed the NTS Tampa branch.

J&J Truck Bodies names national sales manager

J&J Truck Bodies, a Pennsylvania-based manufacturer of dump bodies, trailers, oil and gas equipment and custom transportation equipment, named Corey Sechler national sales manager. Sechler will be responsible for the direction and oversight of the sales department in both commercial and municipal sales, expanding the customer base, and developing national accounts.



Corey Sechler

HOBAS Pipe updates product brochure

HOBAS Pipe USA issued an updated 72-page product brochure covering its centrifugally cast, fiber-glass-reinforced, polymer mortar pipe. It includes guide specifications, joint details, the manufacturing process and more. Updated charts and design guidelines are also now included for the HOBAS 126-inch pipe.

Ericsson joins forces with Ditch Witch and Vermeer

Ericsson, a Sweden-based communications technology and services company, announced that it has joined forces with Ditch Witch and Vermeer.

The companies will work together to leverage breakthroughs in technology to bring new deployment capacity, construction techniques and tools to fiber deployments. Ditch Witch and Vermeer will provide Ericsson with equipment, training and field support to create new, qualified crews with the latest tools and technology.

Red Valve Company names inside sales and customer support manager

Red Valve Company, a Pennsylvania-based manufacturer of valves, sensors, air diffusers and rubber products, named Lynn Richards as the inside sales and customer support manager. Richards will be responsible for a team of sales and administrative professionals who cover global sales and customer support while working with the executive team on strategies, process improvements and structure.

Manitou Americas announces new vice president of sales and marketing

Manitou Americas, a manufacturer and distributor of all-terrain vehicles for construction, agriculture and other industries, named Eric Burkhammer vice president of sales and marketing. Burkhammer will be responsible for the sales and marketing of the Manitou, Gehl, Mustang and Edge brands in the U.S. and Canada.



Eric Burkhammer

Gehl adds Riggins to dealer network

Gehl added Riggins Ag Solutions Group to its dealer network. Riggins provides sales and service to north-central Missouri for Gehl track loaders, skid loaders, compact excavators and articulated loaders.

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LMK Technologies receives favorable patent ruling

The U.S. Patent and Trademark Office's Patent Trial and Appeal Board has ruled in favor of LMK Technologies, declining *inter partes* reviews on two petitions filed by BLD Services. The patents at issue pertain to LMK's T-Liner main-to-lateral CIPP connection lining with Insignia gasket sealing technology and are the subject of pending district court litigation against BLD, the company

announced. BLD unsuccessfully challenged the same claims with earlier IPR petitions.

StoneAge names sales manager

StoneAge has named Vishal Trivedi independent sales manager for India. Trivedi most recently worked at Snap-on Tools where he managed the company's north Indian market. ▼

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Happenings

CALENDAR

Feb. 3-4

Underground Construction Technology (UCT); Georgia World Congress Center; Atlanta; www.uctonline.com.

Feb. 11-12

Horizontal Directional Drilling Academy; Tempe Mission Palms Hotel; Tempe, Arizona; www.hddacademy.com.

Feb. 17-20

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

Feb. 24-28

Wisconsin Underground Contractors Association (WUCA) 2016 Midwinter Conference; Atlantis, Paradise Island Resort and Casino Nassau; Bahamas; www.wuca.org.

Feb. 25-27

Great Lakes Trenchless Association and National Utility Contractors Association (NUCA) of Ohio Annual Convention & Training Expo; Kalahari Resorts; Sandusky, Ohio; www.greatlakestrenchless.com.

March 10-12

NUCA 2016 Annual Convention; El Conquistador Resort; Fajardo, Puerto Rico; www.nuca.com/convention.

March 20-24

NASTT's No-Dig Show; Gaylord Texan Hotel & Convention Center; Dallas; www.nodigshow.com.

April 22-28

World Tunnel Congress (WTC); The Moscone Center; San Francisco; www.wtc2016.us.

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