



digDIFFERENT

digdifferent.com SEPTEMBER/OCTOBER 2017

*Think outside the bucket*

**PROFILE:**

**NORTH DAKOTA EXCAVATOR  
EXPERIENCES GROWING  
PAINS AND GAINS**

**26**

# CREATING A CRAFT

**Contractor spurs growth  
by adapting to market**

**12**

**5 TIPS:**

**MAINTAINING  
TRENCHER CHAINS  
AND COMPONENTS**

**20**

**DOWN & DIRTY:**

**HDD OPERATOR TAKES TO  
THE AIR TO COMPLETE JOB**

**42**

# When It Needs to Run, Make It Cat Pumps.

## The Cat Pumps Difference

Why settle for just good enough when your business deserves the best?

- Longest pump life in the industry provides higher productivity and less downtime
- Service kits in stock for off-the-shelf delivery means no waiting to get parts and accessories
- System and subassemblies available to reduce manufacturing costs

## Products to Meet All Your Application Needs



**Model 1560**  
8 gpm at 4,000 psi



**Model 3560**  
25 gpm at 3,000 psi



**Model 660**  
10 gpm at 3,000 psi



**Model 3570**  
30 gpm at 3,000 psi



**Model 1580**  
12 gpm at 3,000 psi



**Model 6835**  
40 gpm at 3,000 psi

**Specify Cat Pumps. Quality that keeps your equipment running.**

[www.catpumps.com](http://www.catpumps.com) | [info@catpumps.com](mailto:info@catpumps.com) | (763) 780-5440

© 2017 Cat Pumps All Rights Reserved. 17243 6/17



*The Pumps with Nine Lives*

GO SAFELY. GO EFFICIENTLY.  
GO PROFITABLY. GO GREEN.



Whether it's providing the location of a buried utility, the depth and orientation of the drill head, the critical operating parameters of your HDD equipment, or the condition of a pipeline, Underground Awareness™ solutions from Subsite Electronics help you get the job done, and done right.

See us at ICGEE booths  
**K375 and 2645.**

Visit [subsite.com](http://subsite.com) to see our complete line  
of Underground Awareness™ products.

Available at your Ditch Witch® dealer.

 **SUBSITE**  
ELECTRONICS  
[subsite.com](http://subsite.com)

# HYDRO-X

**SINGLE, DOUBLE, AND TRIPLE HEAD OPTIONS AVAILABLE**

**HX-101**  
Single Head Assembly  
(1) OC1H Carbide

**HX-102**  
Double Head Assembly  
(2) AP2 Attack Tips

**HX-103S**  
Triple Head Assembly  
(3) AP2 Attack Tips

**DOWNLOAD THE STONEAGE MOBILE APP**

**STONEAGE**  
ENGINEERING THE POWER OF WATER  
1-866-795-1586 • [WWW.STONEAGETOOLS.COM](http://WWW.STONEAGETOOLS.COM)

## Advertiser Index September/October 2017

	Cat Pumps	2
	Continental ContiTech	24-25
	Ditch Witch	back cover
	Eastern Metal of Elmira USA-Sign	43
	Foremost	39
	GapVax, Inc.	51
	Geneva Equipment	31
	HammerHead Trenchless	33
	Herrenknecht	29
	Hi-Vac Corporation	21
	Hyundai Construction Equipment Americas, Inc.	7
	IDS North America Inc.	49
	Infinity Tool Mfg.	45
	Kaiser Premier LLC	37
	Kri-Tech Products LTD	37
	Milwaukee Rubber Products, Inc.	47
	No-Dig Show	46
	Rival Hydrovac Inc.	29
	Sonetics	11
	StoneAge, Inc.	4
	Subsite Electronics	3
	Transway Systems Inc.	23
	Ultra Shore	41
	Underground Construction Technology	31
	Vac-Con, Inc.	17
	VACMASTERS	5
	Vactor Manufacturing	9
	VARCo	19
	Vector Technologies Ltd.	47
	Water Cannon, Inc. – MWBE	15
	WJTA - IMCA	41
	WWETT Show	48
	Classifieds	50
	Marketplace	50

## digDIFFERENT

*Think outside the bucket*

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

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

Website: [digdifferent.com](http://digdifferent.com) / Email: [info@digdifferent.com](mailto:info@digdifferent.com) / Fax: 715-546-3786

**SUBSCRIPTION INFORMATION:** A one year (9 issues) subscription to Dig Different™ in the United States, Canada and Mexico is FREE to qualified subscribers. A qualified subscriber is any individual or company in the United States or Canada that partakes in excavation, tunneling, boring, trenching, pipeline rehabilitation, relining or bursting — including manufacturers, dealers, and service companies. Non-qualified subscriptions are available at a cost of \$60 per year in the United States and Canada/Mexico and \$80 per year/\$150 for two years to all other foreign countries. To subscribe, visit [digdifferent.com](http://digdifferent.com) or call 800-257-7222.

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

Our subscriber list is occasionally made available to carefully selected companies whose products or services may be of interest to you. Your privacy is important to us. If you prefer not to be a part of these lists, please contact [nicole.labeau@colepublishing.com](mailto:nicole.labeau@colepublishing.com).

**ADVERTISING RATES:** Call Tim Krueger at 715-550-4402 or email [tim.krueger@colepublishing.com](mailto:tim.krueger@colepublishing.com). Publisher reserves the right to reject advertising which it considers misleading, unfair or incompatible with the character of the publication.

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



Tim Krueger

**REPRINTS AND BACK ISSUES:** Visit [digdifferent.com](http://digdifferent.com) for options and pricing. To order reprints, call Jeff Lane at 800-257-7222 (715-546-3346) or email [jeff.lane@colepublishing.com](mailto:jeff.lane@colepublishing.com). To order back issues, call Nicole at 800-257-7222 (715-546-3346) or email [nicole.labeau@colepublishing.com](mailto:nicole.labeau@colepublishing.com).

**CIRCULATION:** 26,892 copies, nine times yearly.

© 2017 COLE PUBLISHING INC.  
No part may be reproduced without permission of publisher.



## VACMASTERS

has been the leader in air-vacuum excavation for more than three decades. No matter what size your jobs, from potholing to trenching, we have a system that is right for your business.



**Call or email to discuss how a VACMASTERS system can make your operation safer, more efficient, and profitable. See an online demo and all of our systems at [www.vacmasters.com](http://www.vacmasters.com).**



1-800-466-7825 • [sales@vacmasters.com](mailto:sales@vacmasters.com) • [www.vacmasters.com](http://www.vacmasters.com)

# Contents

SEPTEMBER/OCTOBER 2017

Think outside the bucket

**dig**DIFFERENT

FOCUS: ICUEE Show Issue, Trenching, Education & Safety



## COVER STORY

### 12 **PROFILE: HYDROEXCAVATION** **Creating a Craft**

Texas contractor takes unique approach to training while adapting to survive oil industry downturn.

By Cory Dellenbach

#### ON THE COVER:

Landshark Hydro-Excavation operator Marcus Soraiz (right) and swamper Juan Ortiz pothole for new light posts in Houston using one of the company's four Vacall hydroexcavators. Utility pole installation is a service the hydrovac company added as the oil industry began to slide. The addition has helped the Pearland, Texas, company to grow. Landshark also has a fleet of 11 GapVax hydroexcavators and services all of Texas and surrounding states. (Photography by Mark Mulligan)

## FEATURES

### 26 **PROFILE: DIRECTIONAL DRILLING** **Growing Pains**

Driven to succeed, a North Dakota excavation contractor contends with the pros and cons of rapid growth.

By Ken Wysocky

### 20 **MACHINE SHOP:** **Extending the Life of Trencher Chains and Components**

The five best practices to keep trenchers from digging deep into your budget.

By Brenda Silva

### 34 **ICUEE PRODUCT PREVIEW:** **Dig These New Products at ICUEE 2017**

By Craig Mandli

### 49 **PRODUCT FOCUS:** **Trenching, Education and Safety**

By Craig Mandli

## COLUMNS

### 8 **BELOW THE SURFACE:** **A Safety State of Mind**

Keeping safety at the forefront should be the mission of the entire company, from the CEO to the laborer.

By Cory Dellenbach, Editor

### 24 **TECH PERSPECTIVE:** **Show Your Credentials**

Pipeline certification can provide a good boost to both your knowledge base and your business' bottom line.

By Doug Day

### 38 **MONEY MANAGER:** **Are Employees Driving Your Rigs After-Hours?**

Watch out for the tax consequences of sending your fleet of trucks home with your employees.

By Erik Gunn

### 42 **DOWN & DIRTY:** **Attacking From the Air**

Contractor suspends directional drill by crane to avoid slowdown on project to stabilize bridge.

By Cory Dellenbach

### 44 **SAFETY FIRST:** **Better Protection for Your People**

New wearable technology is bringing a higher level of safety to job sites.

By Cory Dellenbach

## IN EVERY ISSUE

### 10 **@digdifferent.com**

Visit daily for new and exclusive content.

### 40 **The Latest: Products**

This Issue's Feature: Infinity Tool offers one tough reamer

By Craig Mandli

### 41 **The Latest: News**

### 47 **Happenings**

**NEXT ISSUE: November/December 2017**

FOCUS: Annual Buyer's Guide

- Profile: CST Utilities (Grove City, Ohio)
- Machine Shop: What to look for when buying new or used



**VISIONARY.** OUR AAVM SYSTEM SPORTS FOUR CAMERAS, 360-DEGREE VIEWS, AND MOTION DETECTION. THE SAFETY ADVANTAGE IS EASY TO SEE. [TOMORROWSEDGETODAY.COM](http://TOMORROWSEDGETODAY.COM)



 **HYUNDAI**  
CONSTRUCTION EQUIPMENT

SEE US AT BOOTH K-345  
OCTOBER 3-5  
LOUISVILLE, KY





**SAFETY DOESN'T ONLY INCLUDE ACTING SAFE OR WORKING IN A SAFE MANNER ON THE JOB SITE, IT ALSO MEANS DRESSING SAFELY FOR THE WORK YOU ARE DOING.**

## A Safety State of Mind

**KEEPING SAFETY AT THE FOREFRONT SHOULD BE THE MISSION OF THE ENTIRE COMPANY, FROM THE CEO TO THE LABORER**

BY CORY DELLENBACH, EDITOR

**E**stablishing a safe working environment requires every employer — big and small — and every employee to make safety a top priority. The entire workforce, from the CEO down to the laborer, must recognize that worker safety is central to the business.

Safety measures only keep you safe if you follow them 100 percent of the time. Accidents are often the result of shortcuts, of failing to take simple steps to protect yourself to save a little time. The industry is filled with stories of people who tried to save a few minutes and ended up losing their lives. And if you push your employees to get jobs done faster than safe practices allow, there's a good chance you could lose your business, too.

Landshark Hydro-Excavation, featured in this issue, is a company that has a big focus on safety. It all starts at the beginning when a new crew member is hired. Employees develop a thorough understanding of the equipment, adapting to different job site situations, and even how to work in different soil types.

Ken Sugawara, CEO of the Texas-based company, says the well-trained force is focused on safety. He and his field managers are out there interacting with the crews and making sure protocol is being followed every step of the way. In fact, the company can boast about a true 0.0 TRIR (total recordable incident rate) with OSHA.

### SAFETY CLOTHING

Safety doesn't only include acting safe or working in a safe manner on the job site, it also means dressing safely for the work you are doing. Hard hats are a given, but how about other items you might not think about?

Our Safety First feature this month focuses on several wearable safety devices that have come on the market thanks to the advances in technology: Devices that warn the worker that he is lifting the wrong way, or remind him to lift the right way, those that illuminate your job site without having to carry around bulky flashlights, and badges that pinpoint where a worker is on a job using GPS.

You can find a recap of these devices in this month's issue, but you can also find more detailed stories about them on our website at [www.digdifferent.com](http://www.digdifferent.com).

### COMING UP WITH YOUR OWN SAFETY PROGRAM

It's not hard to develop your own safety program. Just do a simple search on our website or on Google and you're bound to find some simple tips and steps of setting up a safety program at your company.

Here are some things to consider when setting up the program:

1. Post the company's written safety policy for all to see.
2. Involve the employees in policymaking on safety issues. They are the ones out in the field and can provide valuable input.
3. Take an active part in safety activities. As CEO, devote some time once a week or every other week to check out job sites as your crews are working and make sure they are following protocol. If they are, reward them.
4. Hold meetings that focus on employee safety. These should be done weekly. They can be as simple as reminders about wearing hard hats to more in-depth training sessions.
5. Show your commitment by investing time, effort and money in your safety program. Create reward incentives or hire a safety manager to show you are serious about it.

### IS YOUR COMPANY SAFE?

I'd like to hear about your company's safety program or ways you are keeping your crews safe. Email me at [editor@digdifferent.com](mailto:editor@digdifferent.com) or call me at 800/257-7222.

Enjoy this issue! ▼

Have you **solved** a tough excavation **problem** with a creative solution?

Share your story with 27,000 other professionals.

Send a note to [editor@digdifferent.com](mailto:editor@digdifferent.com)  
or call 800-257-7222

# OUR DEPTH IS THE DIFFERENCE



## BACKED BY THE BEST

A strong dealer network, 12 FS Solutions locations, backed by Federal Signal, a global company of leading brands



## CUSTOMER-FOCUSED

Coast-to-coast service, after-sales support, robust training options and industry-leading parts availability



## EXPERIENCED

Over 100 years of experience, Vactor & the Federal Signal family have the expertise customers count on



## AWARD-WINNING

Innovative engineering & a commitment to customer focus earned the Paradigm® a Chicago Innovation Award



The award-winning Vactor® HXX ParaDIGM® is a customer-inspired solution designed for safe excavation and verifying locates. The innovative design represents everything we stand for as a company, with the depth to meet all of our customers vacuum excavator needs. From the first demo to the 1,000th job, we are committed to providing service and support every step of the way.

See what sets us apart from the rest.

Schedule a demo today! Visit [vactor.com](http://vactor.com) or call Nick at 815.673.3892

Visit our booths at ICUEE K-381 & 4960

**VACTOR**  
Subsidiary of Federal Signal Corporation

©2017 Vactor Manufacturing

VISIT DAILY FOR NEW AND EXCLUSIVE CONTENT



## OVERHEARD ONLINE

"A LOT MORE GOES INTO IT THAN JUST KNOWING HOW TO TURN YOUR VAC TRUCK ON AND PUSHING A BUTTON. WE'RE **MAKING OUR MONEY ON THE GUYS KNOWING WHAT THEY ARE DOING** IN EVERY SITUATION."

*Weighing the Pros and Cons of Expanding*  
[digdifferent.com/featured](http://digdifferent.com/featured)

## TRY SOMETHING DIFFERENT

### Achieving Business Growth Requires More Than Hard Work

Yes, if you want to grow your business or fix whatever might be holding it back, it will take some hard work, but there is so much more that is required. The secret to growing and getting to the next level is not just about trying to do more of the same thing, but rather to do something different and better.

[digdifferent.com/featured](http://digdifferent.com/featured)

## PULLING AND PUSHING

### Pipe-Thrusters Bring the Force to Finish the Job

REM Directional owner Joel Colgrove didn't hesitate when he was asked to take on a challenging job. After starting the job, they realized they needed some help to get the pipe in and brought in its pipe-thrusters, setting one up to pull the pipe and one to push.

[digdifferent.com/featured](http://digdifferent.com/featured)





## TAKING TO SOCIAL MEDIA

### Tips to Promote Your Excavation Business on Social Media

Using social media to generate business isn't as simple as setting up a profile and posting every few days or weeks. More and more people are spending their time on mobile devices — going through their social media platform of choice. You should be there interacting with them.

[digdifferent.com/featured](http://digdifferent.com/featured)

*Connect with us!*

-  [facebook.com/digdifferent](https://facebook.com/digdifferent)
-  [twitter.com/digdifferent](https://twitter.com/digdifferent)
-  [linkedin.com/company/dig-different-magazine](https://linkedin.com/company/dig-different-magazine)



# NOW THERE'S A BETTER WAY TO COMMUNICATE

If you're shouting to be heard, pushing buttons to talk, or relying on hand-signals to interpret actions— it's time to put on a Sonetics wireless headset and **EXPERIENCE THE BIG DIFFERENCE.**

***Sonetics***®

Hear what's important.

[soneticscorp.com/public-works](http://soneticscorp.com/public-works)  
877.959.9189



## HYDROEXCAVATION

### Profile

Swamper Juan Ortiz uses a remote control to position the vacuum tube from the Vacall hydroexcavator prior to starting a potholing job in Houston.



### Landshark Hydro-Excavation Pearland, Texas

**OWNERS:** Ken Sugawara and Dave Davis

**EMPLOYEES:** 45

**SERVICES OFFERED:** Hydroexcavation, liquid vacuum, tank cleaning, hydroblasting, waste hauling, and emergency spill recovery response

**SERVICE AREA:** Will travel throughout the U.S.

**WEBSITE:** [www.landsharkhydro.com](http://www.landsharkhydro.com)





# CREATING A CRAFT

**TEXAS CONTRACTOR TAKES UNIQUE APPROACH TO TRAINING WHILE ADAPTING TO SURVIVE OIL INDUSTRY DOWNTURN**

STORY: CORY DELLENBACH PHOTOS: MARK MULLIGAN

**I**n just four years, Ken Sugawara and his partners have seen their company grow from a startup operation to one that bought its 15th hydroexcavator last year and earned \$6 million in gross revenue.

Landshark Hydro-Excavation, based in Pearland, Texas, has undergone some changes in its service mix over those years. Some items haven't changed though, like treating the work as a craft instead of just a job, making sure workers are as safe as possible, and catering to customers.

The company focuses on hydroexcavation, but has added services such as utility pole installation and emergency-response spill recovery. With its growth, the company has satellite offices in Odessa and San Antonio.

## **FINDING A NEW PATH**

Sugawara wasn't a newcomer to the industry when he and his two partners started Landshark in 2013. He has been in the industry for 23 years. One partner, Dave Davis,

was working for a customer when they started talking about creating their own operation.

"Dave and I spoke about putting together this company, and he bugged me enough to where I finally decided to go for it," Sugawara says. A silent partner later joined them.

The three started by offering hydroexcavation services and added services that complement it, like industrial vacuuming. As they picked up work, the company relied more and more on third-party rental for vacuum boxes and waste hauling.

"We started to rely on so many other people to handle these services that the customers didn't give us enough attention as we would get if we had our own," Sugawara says. "It caused issues because we had to rely on the third-parties' training, and wonder whether their training was as stringent as training with our own people."

If something happened at the fault of the third-party contractor, it would also affect Landshark's reputation.



The leadership team at Landshark includes, from left, Operations Manager Enrique Guzman, Business Development Manager Kenny Sharpless, and Owner/President Ken Sugawara.

## A changing landscape

Being in the heart of the oil industry in Texas, Landshark Hydro-Excavation co-owner Ken Sugawara has seen his company's market change as the oil industry has declined.

"Last year was tough," Sugawara says. "We saw many people fold and shut doors."

Sugawara wanted to make sure that didn't happen to his company. The first change for Landshark was focusing less heavily on oil and gas pipeline work.

"We had to adjust to other services in 2016 that we didn't highlight as much when oil and gas was strong," Sugawara says. "Those additional services were a lot of municipality work and utilities and road projects."

That's when the company branched off into doing utility pole installation.

"In about a year and a half we've taken the utility pole installation service industry by storm," Sugawara says. "The competitors that we've taken it from, we now out-perform them on a daily basis 60 to 70 percent as far as the amount of production they can expect. That is a direct result of what our guys can do with the same equipment because of our knowledge and training."

Now, with the oil industry making a comeback, Sugawara says his company will be stronger in the long run. "The diversification gives us multiple revenue streams," he says.

"We quickly realized the issue there and started doing a lot of the work ourselves," Sugawara adds. "Our main focus though is still hydroexcavation and industrial vacuuming."

A lot of work came right away from companies Sugawara and Davis had previously served. Having diverse offerings only helped. "Most of our clients wanted a 100 percent turnaround and one-stop-shop type of deal," Sugawara says.

The company went from a revenue of \$1.2 million its first year to \$6 million last year.

**"IF YOU HAVE HEAVY SOILS, YOU'LL NEED THE GPM, WHICH IS YOUR WORKHORSE, AS OPPOSED TO YOUR PSI, WHICH IS YOUR CUTTERS."**

Ken Sugawara

## A DIFFERENT WAY OF TRAINING

Landshark takes a unique approach to its employees. "It is not unlike how refineries take their millwrights and machinists, and train them and treat it as a craft," says Kenny Sharpless, business development manager. "They

have a true training program that takes them from beginner to journeyman. Our guys are treated as apprentices and move up to journeymen in both training in the yard and on the truck."

(continued)



**35**  
CELEBRATING YEARS OF SERVICE

# Pressure Washers Replacement Engines Pumps, Parts & Accessories

WaterCannon.com

1.800.333.WASH (9274)

ADJUSTABLE TURBO



\$59.99

QC 4 PACK



\$9.99

TRIGGER 4K



\$14.49

TRIGGER 5K



\$24.99

UP TO 20 GPM



\$129.99

ROTATING 4K



\$39.99

RECOIL



\$15.99

40GPM@1500RPM



\$5,299



ENGINES



PUMPS



JETTER KIT



\$49.99

HYDROEXCAVATION  
WANDS



ALL SIZES AND FLOWS

5000 PSI  
& REEL



\$4,965

DRAIN  
CLEANER



\$1,299

RRV4G40-VRT-PKG



4 GPM -  
4000 PSI  
Pump  
Packages

\$259 EACH \$227.92 10+

GAUGES



ELECTRIC  
JETTERS



TRAILER JETTERS



SURFACE  
CLEANER



\$299

ROLL CAGE  
FRAMES



\$149.99

HOT  
WATER



\$3,899

DIESEL  
HOT  
WATER



7gpm @ 4000psi

Industry Trained Staff available from 8:30 a.m. to 6:00 p.m.  
weekdays E.S.T.

Water Cannon, Un contacto en Espanol: llama al: 1.800.917.9274

Orlando | Phoenix | Minneapolis | Hattiesburg | Melbourne | Toronto | Bogota  
International: 1-321-800-5763

Water Cannon  
is proud to be a  
**MWBE**

The continuing education was designed with input from field supervisors and started as a craft-certification test. It has since developed into three phases. The first phase is knowing every component of the truck, its capabilities and what functions it can do.

**"WE STARTED TO RELY ON SO MANY OTHER PEOPLE TO HANDLE THESE SERVICES THAT THE CUSTOMERS DIDN'T GIVE US ENOUGH ATTENTION AS WE WOULD GET IF WE HAD OUR OWN."**

Ken Sugawara

The second phase is troubleshooting. The third phase is using different techniques to do the cutting, defining soil types, and knowing how to adjust to the soils.

"I believe this program has helped us quite a bit because of our confidence in how the truck works, how to adjust for the different job requirements, and basically speaking intelligently to the clients," Sugawara says.

Training this way also helps the workers feel like they are all on a level playing field. That includes Sugawara, who started in the industry as a swamper (assistant to the operator) and worked his way up.

"I'm passing that philosophy down to the office management, field management and down to the operators and swampers," Sugawara says. "Being able to relate to them in all aspects has been a great help. It goes along with understanding what these guys do in the field. We've really created a family here. It truly is a family."

## TRUSTING THE BUILDERS

Landshark operates 15 hydroexcavators capable of performing dry and wet vacuuming and three 70-barrel vacuum trucks (Global Vacuum Systems). Of its 15 hydrovacs, four are Vacall – Gradall Industries and the other 11 are GapVax. All are 2014 or newer models.

Each is custom-built with specifications from Landshark. "We like having manufacturers that work with us on development," Sugawara says.

Landshark's GapVax trucks all operate with a 23 gpm pump, while the Vacalls operate with 25 gpm pumps, both larger than the pumps on typical hydroexcavators.

The larger pumps prepare crews for any soil conditions. "If you have heavy soils, you'll need the gpm, which is your workhorse, as opposed to your psi, which is your cutters," Sugawara says. "If you have to go dump and get water from a distance away, then it's better to conserve water using a smaller pump and a smaller nozzle and you can work longer."

The larger pumps allow crews to increase production if they run into tough soils.

The trucks are also fitted with rubber-booted vacuum tubes instead of the traditional steel. "We'll never go out without that," Sugawara says. "The rea-



ABOVE: Operator Marcus Soraiz (left) and swamper Juan Ortiz pothole for new light posts. BELOW: A crew from Landshark uses one of the company's GapVax units on a pipeline site in Texas.



(continued)



WHEN SO MUCH IS

ON THE  
LINE

SO ARE WE.



Introducing One Touch Service from Vac•Con.  
One call, one point of contact, 24/7.

While some manufacturers make the sale and become scarce, Vac•Con is staying in touch. Vac•Con's One Touch Customer Service allows you instant access around the clock, by phone or internet, to a single point of contact – a real person focused on your needs. That's right, you're never out of reach with One Touch Service from Vac•Con

 **VAC•CON**  
**ONETOUCH**SERVICE™  
**MORE POWER TO KEEP YOU WORKING**

**VAC-CON.COM** | **(904) 567-0225**

A SUBSIDIARY OF HOLDEN INDUSTRIES, INC., VAC-CON IS A 100%  
EMPLOYEE-OWNED COMPANY. ©2016 VAC-CON, ALL RIGHTS RESERVED.

son for that is to avoid the bumps and nicks to the pipe or whatever utility it is you are uncovering.”

To go along with the rubber-booted tubes, Landshark uses primarily turbo (rotating) nozzles with neoprene heads to minimize damage to utilities.

### CATERING TO PIPELINE SPILLS

When not working with utilities, Landshark often works on spill cleanups throughout Texas and Wyoming. “Those are the jobs that are always challenging and problem-solving is needed,” Sugawara says.

The first task on arrival at a pipeline leak is to locate it, then uncover and inspect it. However, the company doesn’t handle just the location and cleanup, it handles all aspects of the job.

“We handle all the boxes, the profiling, the light towers, hand-wash and eye-wash stations and the portable restrooms,” Sugawara says. “That’s been the demand of one of our biggest clients and it seems to be going the way of other companies too.”

The process makes life easier for customers: Instead of four companies submitting bills for the same job, they get only one. Leak cleanups can last anywhere from a couple of hours to weeks.

“Some of these leaks that we go on, we can show up on the job site, chase the first part of it and keep chasing it for the client as they direct us around a facility or down a pipe,” Sharpless says.

**“THE ONLY WAY WE CAN STAND OUT IS IF GUYS ENJOY WHAT THEY’RE DOING, AND IF THEY’RE NOT ENJOYING WHAT THEY ARE DOING, IT’LL SHOW.”**

Ken Sugawara

### STANDING OUT

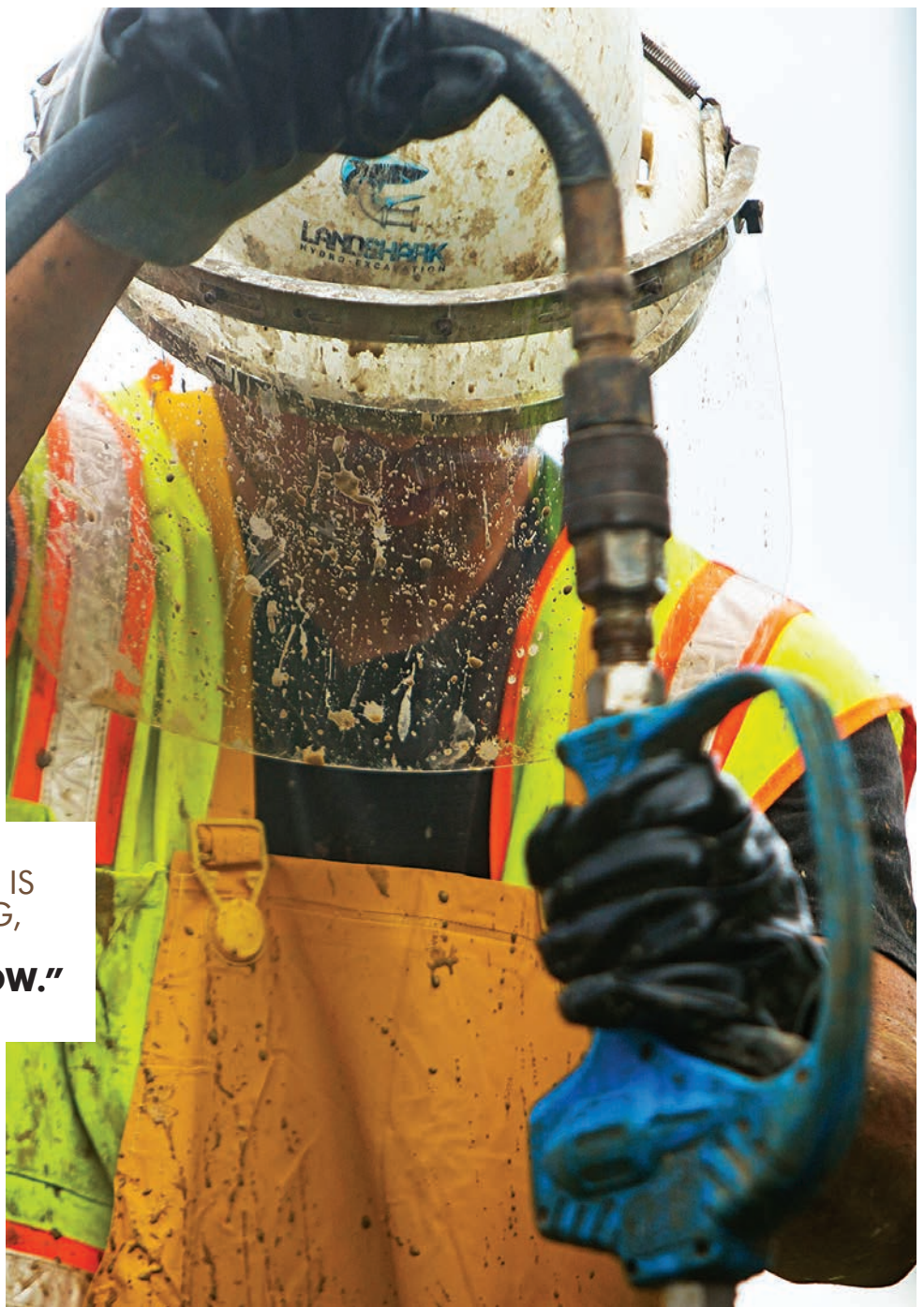
The family mentality and the craft approach to training have helped the company stand out from competitors. “When you put our guys and our vacs out there next to the competitor’s vacs, our people make a difference,” Sharpless says.

Landshark also takes pride in a superior safety record. The company has a total recordable incident rate (TRIR) score of zero. TRIR is a mathematical computation that takes into account how many OSHA recordable incidents a company has per number of hours worked. “We’re not only working very efficiently, but also very safely,” Sharpless says. “We do acknowledge safety when we see our guys out in the field. We do some spur of the moment rewarding for good behavior.”

To help keep its employees happy, the company keeps crew members service-specific. “We don’t want to have someone who hates hooking up hoses to a vacuum truck doing that when he would rather be doing hydroexcavation,” Sugawara says. “We’ve noticed a behavioral-based issue having cross-trained guys and we didn’t realize it existed until we sat back and watched. The only way we can stand out is if guys enjoy what they’re doing, and if they’re not enjoying what they are doing, it’ll show.”

### CONTINUED GROWTH

The company is still growing, and Sugawara looks forward to the future. “Our biggest thing right now is our industrial vacuum side,” he says. “It’s growing by leaps and bounds with the contracts we’ve received recently.”



Operator Marcus Soraiz uses the wand from the hydroexcavator to pothole in Houston.

However, the company has to be cautious about growing too fast and sacrificing quality for quantity.

“The industry may want us to go fast, but we’re not going to go that fast,” Sugawara says. “We’re going to develop smart, well-informed, well-trained individuals.” ▼

### Featured products from:

**GapVax, Inc.**  
888/442-7829  
[www.gapvax.com](http://www.gapvax.com)  
(See ad page 51)

**Global Vacuum Systems**  
800/843-0866  
[www.globalvacuumsystems.com](http://www.globalvacuumsystems.com)

**Vacall – Gradall Industries**  
800/382-8302  
[www.vacall.com](http://www.vacall.com)



**IN STOCK!**



## VARCO TUFF SUCTION *Abrasion Resistant SBR Rubber*



	10'	20'	25'	30'	33'	35'	40'	100 FT. BULK
2"	\$46.45	\$82.95	\$101.20	\$119.45	\$130.40	\$137.70	\$155.95	\$3.45
3"	\$78.35	\$140.95	\$172.25	\$203.55	\$222.33	\$234.85	\$266.15	\$5.95
4"	\$127.55	\$230.15	\$281.45	\$332.75	\$363.53	\$384.05	\$435.35	\$9.75
6"	\$264.65	\$459.35	\$556.70	\$654.05	\$712.46	\$751.40	\$848.75	\$18.50
8"	-	-	-	-	-	-	-	\$31.95



## VACTOR/VACCON FLANGE FITTINGS AVAILABLE



## AMPHIBIAN SERIES HEAVY DUTY POLYURETHANE LINED MATERIAL HANDLING HOSE

*Superior Abrasive Resistant Polyurethane Tube and Cover*

- Static Dissipative Cover
- "Cold-Flex" Materials - Hose remains flexible in sub-zero temperatures.
- Flexible Convoluted Cover Design
- Oil Resistant Polyurethane Liner

	PRICE	STD. LENGTHS
4"	\$13.52 ft.	100'
5"	\$20.90 ft.	20', 100'
6"	\$26.71 ft.	20', 100'
8"	\$44.05 ft.	21', 60'



## CAM & GROOVE FITTINGS & REDUCERS

Available in Aluminum, Stainless Steel or Polypropylene



## REAL TIGERFLEX® EPDM SUCTION HOSE

The Industry Standard! **FULL 6 MONTH WARRANTY**

**4 COLORS-SAME LOW PRICE!**

*Actual Colors May Not Match Photo*



100 FT. BULK		
ITEM#	SIZE	YOUR PRICE
EP15 BULK	1 1/2"	\$1.49 ft
EP20 BULK	2"	\$1.79 ft
EP25 BULK	2 1/2"	\$2.99 ft
EP30 BULK	3"	\$2.85 ft
EP40 BULK	4"	\$5.25 ft
EP60 BULK	6"	\$11.49 ft

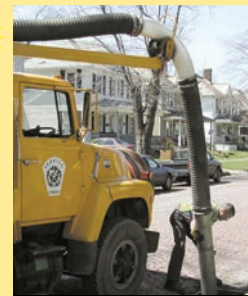
COUPLED HOSE PRICE INCLUDES M X F QUICK CONNECTS			
	20'	25'	33'
2"	\$51.12	\$61.30	\$77.59
3"	\$72.96	\$87.99	\$112.03
4"	\$147.21	\$177.50	\$225.97



## BANDLOCK FITTINGS

## CUSTOM LENGTH MUNICIPAL VACUUM HOSE

Made to Vac Con / Vactor / OEM Standards!



	PRICE
8" ID x 60" OAL	\$325.71
8" ID x 62" OAL	\$325.71
8" ID x 66" OAL	\$342.86
8" ID x 77" OAL	\$354.29



CALL FOR OPTIONS  
& PRICING FOR  
DIFFERENT SIZES



4 PK. NOZZLES  
**\$12<sup>91</sup>**

## PRESSURE WASHER HOSE

Strength and flexibility for pressure washer machines with working pressures up to 5800 PSI.

- 250°F Temp • Coupled M x M

4000 PSI 1 Wire Braid Reinforcement		
ITEM#	SIZE	YOUR PRICE
PW4000	3/8" x 50'	\$59.95
PW4000	3/8" x 100'	\$115.95
5800 PSI 2 Wire Braid Reinforcement		
PW5800	3/8" x 100'	\$129.95

Quick Connect Socket and Plugs Available



ELECTRIC VALVE  
HEATERS  
AVAILABLE

## BRASS LEVER VALVE

Solid brass with a quick opening lever. Full port allows for easy flow. Female NPT threaded.

	2"	3"	4"	6"
RIV	\$65.00	\$108.00	\$152.00	\$299.00

## DOUBLE JACKETED MILL HOSE

Working Pressure:  
300 psi.  
COUPLED OR BULK

FROM  
**\$1<sup>00</sup> ft.**



## COMPLETE LINE OF GLOVES & PROTECTIVE GEAR

CALL TO ORDER TOLL FREE 866-872-1224 • [www.varcopumper.com](http://www.varcopumper.com)

SOURCE KEY  
**09DD17**



Teeth on a trencher chain can easily be replaced, and should be, if they start showing signs of wear. If they aren't changed, it can cause wear on other components.

PHOTOS COURTESY OF DITCH WITCH

# Extending the Life of Trencher Chains and Components

## THE FIVE BEST PRACTICES TO KEEP TRENCHERS FROM DIGGING DEEP INTO YOUR BUDGET

BY BRENDA SILVA

**W**hen faced with the cost of new digging equipment, contractors often look to extend the life of existing equipment in an attempt to get as much use as possible before replacing them.

For trencher chains and their components, some of the best advice from industry professionals to extend equipment life is to be diligent with regular maintenance. As such, the following five tips suggest ways to ensure your equipment will always be in its best condition when you need it.

### 1 KNOW YOUR SOIL

As with many construction-related projects, success is all about using the right tool for the job. For digging trenches, it's no different. One of the most important things to know is the kind of soil you'll be digging into, and use the correct trencher and chain for that specific job.

Chapman Hancock, product manager, parts and productivity tools at Ditch Witch, located in Perry, Oklahoma, points out you need to know the soil and ground conditions before choosing a trencher and chain. "This way you'll choose the right one for the job, which extends the life of both. If you use an improper chain and teeth, you have the potential to vibrate the trencher enough to speed up wear and tear on it, requiring maintenance or replacement sooner than if you chose the proper chain from the start."

He goes on to stress the importance of knowing the soil as an integral part of trencher and chain maintenance. "Matching the components of the digging system to the soil conditions allows you to get the most efficient cut, and ensures you're using the right tool for the job at hand."

### 2 WATCH YOUR TENSION

As a second step to protect against early wear on equipment, chain tension is also extremely important to extending the life of chains.

"The No. 1 thing people are doing wrong is not having the chain tensioned properly. Proper tension guarantees you get the most use and life out of the chain, so when it's not done right, you shorten the life of the chain," says Al Chancellor, marketing manager at Underground Tools Inc. (UTi), located in Lino Lakes, Minnesota.

**"THE NO. 1 THING PEOPLE ARE DOING WRONG IS NOT HAVING THE CHAIN TENSIONED PROPERLY. PROPER TENSION GUARANTEES YOU GET THE MOST USE AND LIFE OUT OF THE CHAIN, SO WHEN IT'S NOT DONE RIGHT, YOU SHORTEN THE LIFE OF THE CHAIN."**

Al Chancellor

Hancock agrees, "Chain tension is key, and it needs to be correct at all times. It really should be checked at least twice a day — at the beginning of the shift and at the end." He adds that chain tension plays an important role in how the machine operates as a whole, and correct tension can also ultimately prevent lost time and productivity on a job.

### 3 REPLACE PARTS TOGETHER

For some types of machinery, parts can be replaced individually as needed, and this applies to trenchers as well. However, by replacing only the chain and not the other components, you really

(continued)

# TAKING THE WEIGHING OUT OF HYDRO EXCAVATING

## X-8



**Legal When Fully Loaded**  
**8 yd<sup>3</sup> Debris Tank**

## X-13



**Best Payload Capacity**  
**13 yd<sup>3</sup> Debris Tank**

### PAYLOAD CAPACITY

- ✖ X-8 Can Carry 23,000 lbs
- ✖ X-13 Can Carry 22,000 lbs
- ✖ Avoid Highway Overweight Tickets
- ✖ Onboard Scale
- ✖ Best Tool Storage

### PERFORMANCE

- ✖ Triplex Water Pump:  
20 GPM @ 2,500 PSI
- ✖ Noise-Deadening,  
Heat-Retaining Enclosure
- ✖ Effective Power Transfer  
with OMSI Heavy-Duty  
Transfer Case Design
- ✖ 360° Boom

### POWER

- ✖ 4,000 CFM—27" Hg
- ✖ 8" Vacuum System

### SEE THE X-8 IN ACTION

Scan This Code or Visit  
[https://youtu.be/vsip\\_G3fsWM](https://youtu.be/vsip_G3fsWM)



**YOUR WEIGHT IS OVER**

800.752.2400 | 740.374.2306

[x-vac.com/digdifferent](http://x-vac.com/digdifferent)





If you need to replace parts, manufacturers recommend replacing them at the same time to avoid wear and tear on other components.

the next day's use easier than if the chain wasn't cleaned — particularly for certain types of soil and what they leave behind.

"Some moist soils, when not cleaned off right away at the end of the day, can dry almost like cement. What I like to recommend is that users put the boom at a 90-degree angle and spin the chain for a few minutes. This will spin off a lot of that moist soil before it has a chance to dry, and then you can clean the rest of the chain much easier with less debris on it," he says.

## 5 KEEP YOUR MANUAL

Industry professionals agree that most questions about use and maintenance can be answered in the owner's manual for any trencher or chain, which makes it even more important not to throw it away or lose it among files and papers. When necessary, having the specs, usage details and troubleshooting answers can prove invaluable as a preventative measure to downtime and crew productivity levels.

"Many people only keep their operator's manual for a short time after buying a piece of machinery, when they really should keep it for as long as they own the equipment," Hancock says. "You never know when you'll need to refer to the specs that were originally intended for its use or maintenance, which could end up being very costly if not followed as directed in the manual."

By remembering to keep the operator's manual as a handy reference, companies decrease their downtime by not having to replace the equipment. This increases the life of the equipment as well as their bottom line, which further validates the cost of the original investment. ▼

do yourself a disservice, which will end up costing more in the long run.

Chancellor explains, "I tell people all the time, if you're going to replace the chain, make sure you replace the drive sprocket at the same time. Because if you have a new chain with an old sprocket, they will work against each other, and really accelerate the wear on the rollers. Then you might have to deal with lost time as you replace things internally that will also be affected."

Ditch Witch's Hancock agrees, "If up to 40 percent or 50 percent of the teeth are worn down, replace all the teeth, but make sure you replace all the sprockets at the same time or you'll regret it later."

## 4 CONDUCT REGULAR MAINTENANCE

Along with keeping a watchful eye on worn-down teeth and chain tension, companies should also maintain regular cleanings of trenchers and chains as another way to extend the life of the equipment. This regular maintenance should include a visual inspection for any broken cutters or loose nuts and bolts, as well as a close-up inspection of the bottom of the chain to make sure it isn't wearing too close to other parts of equipment.

Chancellor recommends that end-of-day cleaning should be done without hesitation, which will make

**"IF UP TO 40 PERCENT OR 50 PERCENT OF THE TEETH ARE WORN DOWN, REPLACE ALL THE TEETH, BUT MAKE SURE YOU REPLACE ALL THE SPROCKETS AT THE SAME TIME OR YOU'LL REGRET IT LATER."**

Chapman Hancock



A contractor should check over the trencher, including the chain and its teeth, prior to starting any job.

**For more** on trencher maintenance, go to **[digdifferent.com](http://digdifferent.com)**

## HAVING MAINTENANCE ISSUES?

Do you have a question about maintenance on a piece of equipment? Dig Different can track down the answer for you in our Machine Shop feature. Send your question to [editor@digdifferent.com](mailto:editor@digdifferent.com) or call 800-257-7222.

**WEQFAIR**  
Wastewater Equipment Fair

**OCT. 17-18, 2017  
NASHVILLE, TN**

**[WEQFAIR.COM](http://WEQFAIR.COM)**

# TRANSWAY SYSTEMS INC.

Custom Built...Driven by You  
PROFESSIONAL VACUUM EQUIPMENT

Visit Us On:   

1-800-263-4508

parts@transwaysystems.com

sales@transwaysystems.com

www.transwaysystems.com

EVERYONE WANTS IT ALL, TRANSWAY HAS IT !



MAXIMUM PERFORMANCE. MAXIMUM PAYLOAD.

- HYDRAULICALLY DRIVEN 3800 CFM - 27" BLOWER
- 12 CUBIC YARD DEBRIS TANK
- HEATED ENCLOSURE - NO WINTERIZATION REQUIRED
- 8" X 26' HYDRAULIC BOOM
- ONE FUNCTION HYDRAULIC REAR DOOR
- ON-BOARD SCALES TO MAXIMIZE PAYLOAD

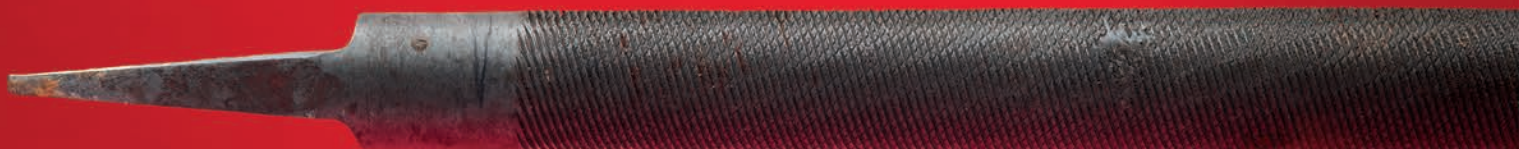
**AND MANY MORE STANDARD FEATURES !**

*Your Choice of Chassis Configurations*





# DAMAGE.



**ContiTech hydraulic hose with Armorcoat™ cover** makes the cut in the most extreme conditions where maximum abrasion resistance is demanded. Combine that with our unequalled impulse performance, flexibility, and bite-to-wire coupling that hangs on like a pit bull. And there's no doubt that this hose proves its mettle day in and day out. So, if you're having a rough time with hose, take control with hydraulic hose with Armorcoat. **ContiTech. We Have an Answer for That.**



## Show Your Credentials

### PIPELINE CERTIFICATION CAN PROVIDE A GOOD BOOST TO BOTH YOUR KNOWLEDGE BASE AND YOUR BUSINESS' BOTTOM LINE

BY DOUG DAY

**S**ince first implemented in 2002, the Pipeline Assessment Certification Program has become the accepted method for municipalities, contractors, consultants and manufacturers to record and track sewer pipe defects, assess condition of infrastructure, and plan for sewer rehabilitation or replacement. It is also being used as a benchmarking tool in stormwater systems, dams and levee pipe systems.

PACP was developed by the National Association of Sewer Service Companies (NASSCO) with assistance from the Water Research Centre in the U.K. to provide a consistent and standardized sewer pipe evaluation method and a management tool for the collection of CCTV data. "PACP is very widespread now," says Lynn Osborn of LEO Consulting, technical director at NASSCO. "Many municipalities and sewer districts require it for the CCTV of their sewers."

Jim Aanderud, president of Innerline Engineering in the Greater Los Angeles area, was one of the first to be certified in PACP. While he no longer maintains his certification, the company has eight staff members who do. He says around 80 percent of their pipe inspection customers require PACP, and that is increasing every year.

Aanderud says it's a lot different than the days before PACP. "Every operator would see an observation in the pipe and make their own judgment about what to call it," he recalls. "You might have 10 people with 10 different opinions about how to name it, so it didn't necessarily make any sense to the end user. Now, I can send two different operators to the same job on different days and they're going to be labeling things similarly. And if the client brings in a different contractor, there is similarity in the information and reports."

NASSCO executive director Ted DeBoda adds that PACP is used throughout the U.S., taught by the Canadian Standards Association and CERIU, the Quebec urban infrastructure organization, and is now being taught in South America.

"PACP is a foundational component to NASSCO's mission to set standards for the assessment, maintenance and rehabilitation of underground infrastructure," says DeBoda. "Certification is an important step in the career of operators, engineers and anyone involved in assessment of underground infrastructure. Many if not most municipalities specify PACP for CCTV inspections of their pipelines, as well as manhole inspections and lateral inspections."

**You can learn more about PACP,** certification and class schedules in the U.S. and Canada at **[www.nassco.org](http://www.nassco.org).**

# CONTROL.



[www.contitech.us](http://www.contitech.us)

## ContiTech

The assessment and rehabilitation of manholes and laterals is a natural progression once the mainlines are addressed. We're also seeing a lot more inspections of laterals as part of cross-bore inspections that are being done throughout the U.S."

### BECOMING CERTIFIED

Since 2002, more than 25,000 people have been certified for PACP. Aanderud adds that the training provides a higher value beyond using the program correctly in that it exposes operators to all the things they may find in a pipe. "You used to learn through experience," he says. "Going through PACP training, you're exposed to pictures of all the different anomalies that can be found in a pipe, so when you come across something new, you're able to call it out correctly. It's really raised the game when it comes to operators, their knowledge, and their ability to provide the information as accurately as possible."

The PACP training is a two-day course, and is a prerequisite to MACP and LACP, which are generally offered on the third day. All three classes include a comprehensive exam. Certified users have their name and certification numbers entered into a database accessible through [www.nassco.org](http://www.nassco.org) for owners

**"I CAN SEND TWO DIFFERENT OPERATORS TO THE SAME JOB ON DIFFERENT DAYS AND THEY'RE GOING TO BE LABELING THINGS SIMILARLY."**

Jim Aanderud

and inspectors to ensure operators have current certifications. Courses are held regularly with more than 100 trainers across the U.S. and Canada who will travel to a site to conduct the sessions as needed. "Eventually, we're going to get as much of that online as possible," adds Osborn. The recertification modules, required every three years, are already online.

### CERTIFIED SOFTWARE

There are 14 data collection programs and five asset management software

systems certified by NASSCO, allowing contractors to work on any PACP project without requiring them to purchase and learn project-specific software. "There was a time when if you wanted to work with a particular client, you had to have that particular software package, which is very expensive," says Aanderud. "Through standardization, we're able to work for most any customer with the software we choose because, with PACP, we can integrate the data with their system."

PACP documents four areas of defects:

- Structural — defects where the pipe is damaged or otherwise defective
- Operation and maintenance — types of foreign objects found in pipes that may interfere with the operation of the conveyance system
- Construction — features and conditions associated with the methods used to construct and connect to pipes
- Miscellaneous — general features and defects that are not described by or included in other categories

PACP provides condition grades for defects, which can be readily incorporated into any asset management program. The most recent version provides a new appendix with steps to develop a risk assessment based on condition grades (likelihood of failure) and consequence of failure, which helps municipalities make the best use of their capital expenses.

"The operator records the observations about things like service connections, offset joints, roots and broken pipe in a standardized manner, that's the key," adds Osborn. "A common way cities use it in their sewer assessment is for their capital program for rehabilitation or replacement. They also use it for the development of a comprehensive preventive maintenance program. They may put sewers that have significant grease or roots on a more frequent cleaning schedule. Because the data is standardized, you can search the database for defects like that." ▼

**DIRECTIONAL  
DRILLING**  
*Profile*



Nyles Brown sets up SRD Excavation/Construction's Vermeer 10x15 for a directional drilling job. The company services northwest North Dakota and northeast Montana with directional drilling, trenching, cable plowing and hydroexcavation.



# GROWING PAINS

STORY: KEN WYSOCKY PHOTOS: GABRIEL BLACK

**DRIVEN TO SUCCEED, A NORTH DAKOTA EXCAVATION CONTRACTOR  
CONTENDS WITH THE PROS AND CONS OF RAPID GROWTH**

As the owner and operator of SRD Excavation/Construction in Williston, North Dakota, Seth Dixon finds himself continually contending with a good news-bad news paradox. The good news: The company has grown exponentially since he established it in 2013. The bad news: The company has grown exponentially since he established it in 2013.

On one hand, nearly doubling the company's revenue every year for the past four years is a good problem for the energetic 31-year-old, who firmly believes in the if-you're-not-growing-you're-dying philosophy of business. "The way I look at it, the minute you stop wanting more, you stop working as hard," he explains. "If you don't keep aspiring to do bigger things, you lose your drive."

On the other hand, rapid growth causes what Dixon calls a "speed wobble." Speed wobbles are a host of pressing and time-consuming challenges: More bills to pay. More employees to hire. More equipment to buy with limited financial resources. More managerial headaches. More obstacles to maintaining on-the-job quality. "Keeping everything under control has been difficult," he notes. "It's such a balancing act every single day."

How has Dixon worked through it? "I'm not sure we're through it yet," he replies. "We always seem to need more people and need more this, need more that. We're still a young company."

Headaches aside, however, success clearly whets Dixon's appetite for more of the same. And while negotiating this tumultuous business terrain, he's learned how to make the path a little smoother by hiring good people and delegating responsibilities, developing good relationships with equipment-leasing companies and keeping a tight rein on quality control.

Dixon has also shown an ability to capitalize on emerging business opportunities. It's a trait that's dramatically increased the size of the company's fleet of equipment from just a dump truck and a trailer in 2013 to more than \$1.5 million worth of iron. It has also diversified the services offered by SRD, which started out in septic system installations but now also does water and sewer

**"THE WAY I LOOK  
AT IT, THE MINUTE  
YOU STOP WANTING  
MORE, YOU STOP  
WORKING AS HARD.  
IF YOU DON'T KEEP  
ASPIRING TO DO  
BIGGER THINGS, YOU  
LOSE YOUR DRIVE."**  
Seth Dixon

line installations, horizontal directional drilling, trenching and cable plowing, hydroexcavating, road building and site preparation. The diverse customer base helps protect the company from cyclical market downturns in various sectors.

## PASSION FOR BIG IRON

Dixon has been involved in excavation and heavy equipment for most of his life. His father, Jack, worked as a heavy-equipment operator and his stepfather, Ben Potter, owned a septic installation company, both in the state of Washington. "Between the two of them, I literally grew up on heavy equipment," Dixon says.

After working for his stepfather as a septic system installer, Dixon started doing excavating for mainline sewers at age 18. Then he got a job doing excavations for natural gas pipelines, which took him all over the country. But around 2010, he grew tired of all the travel and the extremely long hours. So he took a job as a foreman for a Montana contractor that did water and sewer line installations.

During that time, he met his wife, Jessica, who was raised in Williston. Within a year or so, the couple moved to Williston, where Dixon abruptly decided to start his own company in November 2013. "I just got tired of working for other people," he explains.



## SRD Excavation/Construction Inc. Williston, North Dakota

**OWNER:** Seth Dixon

**FOUNDED:** 2013

**EMPLOYEES:** 21

**SPECIALTIES:** Directional drilling, fiber-optic trenching and cable plowing, hydroexcavation, septic system installation, water and sewer line installation

**SERVICE AREA:** Northwest North Dakota and northeast Montana



**"I HATE TO SAY NO  
IF WE GET A CALL  
TO DO SOMETHING.  
SO WE KEEP ADAPTING  
TO CUSTOMERS' NEEDS."**

Seth Dixon

With only \$3,000 in savings to work with, Dixon established SRD (which are his initials, Seth Ryan Dixon) by renting a skid-steer and a mini-excavator, and installing septic systems. At the same time, he studied for and passed the state test to become a licensed water and sewer contractor. He also borrowed \$13,000 from his in-laws and bought a dump truck and trailer. He paid off the loan in six months by installing septic systems and doing site preparation work.

Dixon kept prospecting for new clients. Later in 2014, he caught a break. After getting edged out by a more experienced contractor on a bid to dig footings for an expansion at a local big-box home goods retailer and stabilize its deteriorating parking lot, Dixon got called in to finish the work. That gave him his first taste of the challenges posed by rapid growth.



Seth Dixon,  
owner

The SRD Excavation/Construction team includes, from left, Rob Marshal, Travis Lindenberg, Nyles Brown, Stacy Allee, Vance Torgerson, Josh Stock, Ray Montanez, Shane Potter, Sanford Jones, Thad Salter, Tyler Myskewitz, David Ravis, Junior Balle and Seth Dixon.



(continued)



# Unique

**One single reaming step:** "Full Face Hole Opener" – robust, flexible, easy to maintain. With replaceable cutter types for any ground and diameters from 30" to 72".

## Pioneering Underground Technologies

› [www.herrenknecht.com/holeopener](http://www.herrenknecht.com/holeopener)



# RIVAL™ HYDROVAC

**COST EFFECTIVE  
EFFICIENT  
LIGHTWEIGHT**

The Rival truck was created to allow for business owners and their employees to be able to provide highly efficient Hydrovac services within the constraints of the law.



**TRANSWEST**  
TRUCK TRAILER RV

UNITED STATES

855-243-5444 • [WWW.DIGVAC.COM](http://WWW.DIGVAC.COM)

**LEARN MORE ABOUT THE RIVAL HYDROVAC TODAY!**

CANADA

844-GO-RIVAL • [WWW.RIVALHYDROVAC.COM](http://WWW.RIVALHYDROVAC.COM)

“That ramped us up from two employees to six or seven,” he says. “Also, it happened in late fall, so we had to hurry up to finish before the ground froze. As an owner, going from two to seven employees is a big leap both in time commitment and asset management.

“We had to rent a lot more iron, too, so we went from barely any bills to a lot of bills in a hurry,” he continues. “Logistically, there were a lot more moving pieces to keep track of, plus I also wanted to be sure the job was profitable and done right. I’m big on quality work.”

## QUALITY COUNTS

As Dixon talks about his business, two things emerge as factors in his company’s rapid growth: quality control and persistence. Doing quality work led to repeat business and word-of-mouth referrals. And persistence, in terms of continually but diplomatically reminding prospective customers that he was interested in doing more work, more often than not got his foot in the door.

“I’m big on quality all the way around,” he says of his standard. “And that’s exactly why we are where we are today. We make sure the product we’re turning over to a client is exactly what they wanted. No cutting corners.” As an example, he points to laying fiber-optic cable, now his company’s largest market, at a certain required depth.

“Some guys might say a certain depth is close enough and leave it at that,” he explains. “But even if the customer doesn’t know it’s not laid deep enough, I’d know. Furthermore, if another contractor came in to do some work later on and breaks the line we laid because it wasn’t installed deep enough, you get a reputation for shoddy work. You certainly want to be known, but not for that kind of work.”

The value of persistence was demonstrated in 2015, when SRD landed a job to perform fiber-optic line installations for a large communications company based in Montana. After installing a fireline (a 6-inch-diameter line that supplies water for fire-sprinkler systems) for the company in a building it owned in Williston, Dixon kept asking the company for more work, hoping to get into fiber-optic installations.

Satisfied with the fireline project, the communications company kept giving SRD small jobs — think of them as test runs. The business relationship grew to the point that now SRD is the company’s sole contractor for moving and reinstalling fiber-optic lines during road projects as well as new fiber-optic line installations, he says.

“It was a pivotal point for the company,” says Dixon, noting that approximately 80 percent of the company’s revenue now comes from this one client. “They also had a need for aerial construction (fiber-optic lines strung on telephone poles instead of laid underground), so we bought a bucket truck to fill their needs. Now we have three full-time aerial crews.”

## DIVERSE CUSTOMER BASE

Providing an array of services allows Dixon to hedge against cyclical slowdowns in various business sectors. It also keeps equipment with the company’s

## Delegating job duties allows owner to focus on big picture

Many a contractor feels that in order to get things done right, they need to do it themselves. Seth Dixon used to operate that way until he acquired two unwanted partners in his business, SRD Excavation/Construction: stress and burnout.

Rapid growth at SRD pushed Dixon to a tipping point where he realized he couldn’t do everything. So he hired a secretary to handle invoicing and other administrative details as well as a company to process payroll. “Now I basically handle crisis management — make sure things are going right,” he says.

Dixon also delegated more responsibility to his right-hand man, Sanford Jones, the company’s head superintendent. “He’s the key person in our operation,” Dixon explains. “He’s always the first one there and the last one to leave. He’s also great with quality control and keeping projects going on schedule. In addition, he’s very reliable. If I ask him to do something, it’s done. I never have to wonder about it.”

Of course, delegating responsibilities to others requires good employees who can

handle the extra work. And like so many contractors nationwide, Dixon struggles to find employees with the right experience, values and work ethic. “Finding someone with a construction background who’s also knowledgeable and wants to work, and doesn’t carry a lot of baggage, like drunk-driving convictions, is a nightmare,” he says. “Recruiting people is a real struggle.”

To recruit job candidates, Dixon says he has been trying outlets such as Facebook, Craigslist and temporary-employee agencies. “There’s a Facebook page called People of HDD Help Wanted,” he says. “It’s like a Facebook page for horizontal directional drilling employees around the country that are looking for work.”

Dixon is also considering implementing production bonuses as an incentive to recruit new employees. In the meantime, one of his main strategies for finding quality employees centers on a volume approach. “I find quality employees through sheer volume of hiring,” he says. “I’m not sure how else to explain it — that’s just how it is.”

Nyles Brown uses a directional drill on a job site.



(continued)



*"Geneva's team had great knowledge of my industry. Frankly, I was amazed."*

## Store clean or dirty water for your construction jobs in convenient, economical flat-top Frac Tanks, delivered right to your job site.

Whether you have a utility infrastructure job that uses clean water in hydroexcavation, or a construction foundation job that has to capture and dispose of dirty groundwater, you need the onsite water storage of a Frac Tank giving you access to 21,000 gallons of temporary water storage. That's 3 times the volume of a semi-trailer, so you have greater efficiency because you're not wasting time and money going back and forth to transport or dispose of water. Geneva Equipment has a huge inventory of Frac Tanks and will help you find the ones that are best for your job.

**Frac Tanks from Geneva Equipment**  
500 bbl (21,000 gal) portable Frac Tanks  
1000+ tanks available  
Delivery to your door



Check out Geneva's Frac Tanks and other equipment inventory: [www.genevaequipment.com](http://www.genevaequipment.com)  
Or call Tom directly to discuss your project and equipment needs: 855.202.2213

## Do Business, Better.

Join your colleagues at UCT in New Orleans, LA, Jan. 30-Feb. 1, 2018. It's the premier business event for underground utility infrastructure professionals.

- Earn up to 25 PDHs
- Understand technologies & products displayed in the exhibit hall
- Explore the latest operational issues impacting your business
- Network with suppliers
- Trenchless and open-cut technologies presented
- Discounts for multiple attendees from the same company

View the program and register at [uctonline.com](http://uctonline.com)



**UCT 2018 – Real Business in the Big Easy.**



**23rd Annual Underground Construction Technology**  
International Conference & Exhibition

**January 30 – February 1, 2018** | Ernest N. Morial Convention Center | New Orleans, LA





Ray Montanez raises a splice case with a bucket truck. SRD Excavation/Construction picked up utility pole installation jobs as a way to attract more customers and become a one-stop-shop business for its existing client base.

name on it out in the field, serving as heavy-equipment billboards. “I hate to say no if we get a call to do something,” he explains. “So we keep adapting to customers’ needs.”

“Keeping our services diverse is a big growing point,” he continues. “It puts us out there. If people need water-lines fixed or septic systems installed, I want them to think SRD. Plus, if fiber-optic died on us, we could go right back to building subdivisions (doing road work, site preparation, laying water and sewer lines and so forth). I can’t get rid of those core services because that’s where my roots are.”

**“WE MAKE SURE THE PRODUCT WE’RE TURNING OVER TO A CLIENT IS EXACTLY WHAT THEY WANTED. NO CUTTING CORNERS.”**

Seth Dixon

Providing various services requires a diverse inventory of equipment. The company currently relies on a Vermeer P-1250 cable plow with a reel carrier and a trencher attachment for winter work; a Case 580 Super N wide-track backhoe; two mini-excavators, made by Komatsu America Corp. and Case Construction; a cable plow manufactured by Ditch Witch (a Charles Machine Works Co.); a Vermeer 10x15 directional drill; and a Case 6030 directional drill.

The company also owns a 1997 Ford F-800 bucket truck; a pull tractor made by Massey Ferguson (a brand owned by AGCO Corp.); a 1999 Interna-



Tyler Myskewitz locates existing fiber along a roadway with a vacuum unit (Vac-Tron). Diverse services are key to the company’s growth.

tional dump truck; a Ditch Witch 350 small-service cable plow/trencher; a Case CX210 excavator and a Case 1850K bulldozer; a 1989 Caterpillar 613 scraper; a 1999 Sterling tractor cab; a 2006 35-foot end-dump trailer made by HILB; and two paving rollers built by BOMAG America (a Fayat Group company). A variety of trailers rounds out the fleet: They’re made by Lambert Tractor & Machinery Sales, Pace American, Trail King Industries, Econoline Trailers, Redi-Haul Trailers and PJ Trailers.

In addition, SRD owns a hydroexcavation truck built by Vac-Tron on a

**Featured products  
from:**

**BOMAG Americas, Inc.**  
800/782-6624  
www.bomag.com/us

**Ditch Witch**  
800/654-6481  
www.ditchwitch.com  
(See ad back cover)

**General Pump**  
888/474-5487  
www.generalpump.com

**PJ Trailers**  
800/452-9116  
www.pjtrailers.com

**Redi-Haul Trailers, Inc.**  
800/533-0382  
www.redihaul.com

**Trail King Industries, Inc.**  
800/743-3324  
www.trailking.com

**Vac-Tron Equipment**  
888/822-8766  
www.vactron.com

**Vermeer**  
641/628-3141  
www.vermeer.com

**"KEEPING OUR SERVICES DIVERSE IS A BIG GROWING POINT. IT PUTS US OUT THERE. ... I CAN'T GET RID OF [OUR] CORE SERVICES BECAUSE THAT'S WHERE MY ROOTS ARE."**  
Seth Dixon

1999 GMC 5500 chassis with a 500-gallon debris tank, a 350-gallon water tank, a water pump built by General Pump (owned by Interpump Group) and a 3,000 cfm blower manufactured by Roots Systems Ltd.

Buying and renting equipment has been one of the biggest stressors for Dixon. He had no credit rating when he started out, which made it impossible to obtain financing to buy equipment. The situation worsened a bit when he incorporated the company in early 2015 to separate his personal finances from the company's (he had been operating as a sole proprietor). "As a result, on paper the company is only a year and a half old, so it's still hard to get credit," he notes. "Incorporating kind of kicked us in the shins financially."

But thanks to good relationships with leasing companies and quick payments by his largest customer, which keeps cash flow up, Dixon is managing to obtain the equipment required to meet increasing demand from customers.

#### FUTURE LOOKS BRIGHT

Dixon expects continued growth for SRD, with even more emphasis on installations of fiber-optic lines. "I want to keep growing," he says. Part of that growth could come from geographic expansion, he adds, pointing to a recent partnership SRD struck with a Minnesota contractor to replace older copper communications lines with fiber-optic lines in a small town in Montana.

"We're sending three aerial crews and three underground crews," Dixon says of the \$4 million project, on which SRD will serve as a subcontractor for the Minnesota company. Dixon's main customer asked SRD to do all the aerial plant work, but Dixon couldn't get his company bonded for the project. So the Minnesota-based company obtained bonding and instead hired SRD as a subcontractor to handle the aerial work and install phone drops (fiber-optic lines that run up telephone poles from underground, then head over to residential homes).

Dixon says SRD got asked to participate in the project because of its track record for doing quality work. "It's a big growing step for us," he says, noting the project will take until winter to complete. "It shows that doing quality work really counts." ▼

## PIPE BURSTING PROS DEPEND ON HAMMERHEAD®

"We worked very closely with HammerHead Trenchless Equipment in the development of their new 100XT static pipe bursting system, and we couldn't be happier with the final result. It's fast, reliable, and backed by customer support that has always been quick to respond when we have a question. Municipalities are catching on to the advantages of pipe bursting, and our 100XT positions us to take advantage of pipe bursting's growing popularity."

**MARK DIMICHELE,**  
Owner, D & D Water & Sewer, Canton MI

## EQUIPMENT. EXPERTISE. SUPPORT.

HammerHead Equipment products and expertise take the guesswork out of pipe bursting. And legendary factory support puts even the toughest pipe bursting jobs within your reach.



Find your local dealer at  
hammerheadtrenchless.com  
or call 800-331-6653



MOLING | RAMMING | BURSTING | HDD ASSIST | WINCHES | CIPP

©2017 Earth Tool Company, LLC

A Charles Machine Works Company

# Dig These New Products at ICUEE 2017

BY CRAIG MANDLI

The International Construction and Utility Equipment Exposition (ICUEE), also known as “The Demo Expo,” is the premier event for utility professionals and construction contractors to gain comprehensive insight into the latest technologies, innovations and trends affecting their industry. This

year’s event, slated for Oct. 3-5 in Louisville, Kentucky, promises to show off some of the finest new products on the construction market. Below is a preview of some of the newest products that will be highlighted at this year’s show.

## Cat Pumps Model 3560

The **Model 3560** from Cat Pumps is a high-pressure water pump with two performance ratings: 25 gpm at 3,000 psi or 20 gpm at 4,000 psi. It is ideal for equipment operating in high-duty cycle/remote applications, such as hydroexcavating and jetting. This pump can be direct-driven hydraulically or pulley driven from a motor or engine. V-packings and low-pressure seals are completely lubricated and cooled, increasing pump life. No external oilers are required. The wet-end is easily serviced without entering the crankcase. A 316SS discharge manifold is optimal for hydroexcavating and other high-duty cycle applications.



See ad page 2

763/780-5440; [www.catpumps.com](http://www.catpumps.com); Booth 2129

## USA-Sign Compact C-Stands

**Compact C-Stands** from USA-Sign are made with a nonreflective vinyl roll up. Base sizes for the stands are available in standard or larger bases, and the legs come in galvanized steel or aluminum. They extend from 38 to 50 inches, and have leg release systems in Kick-Lever, T-Pin or Direct-Drive. The two-position, two-piece telescopic legs adjust for maximum stability and have built-in roll-up sign attachments in Spin-Handle or Quick-Attach. Wind-deflection systems are available in Leaf-Spring or Coil-Flex, and all stands are NCHRP-350 accepted for use with all roll-up signs. The Outrigger Beveled Button Snap enables faster work site tear down.



800/872-7446; [www.usa-sign.com](http://www.usa-sign.com); Booth 3951

## Ditch Witch JT40

The **JT40** and **JT40 All Terrain** horizontal directional drills from Ditch Witch use advanced drilling-system technology to conquer tough drilling environments. Show attendees can test the HDD virtual-reality training simulator, a component of the Ditch Witch HDD Certified Training program. The technology allows users to simulate a real HDD job site via its two-screen display and joystick. The VR simulator accelerates training for new-generation HDD operators without compromising job site safety. Attendees can explore the latest HDD tooling options for drilling in hard rock environments, including the Rock Monster backreamer and All Terrain drill pipe and housing.



See ad back cover

800/654-6481; [www.ditchwitch.com](http://www.ditchwitch.com); Booth K155

## Vac-Tron Equipment Truck-Mounted PTO Series Vacuum Excavators

**Truck Mounted PTO Series Vacuum Excavators** from Vac-Tron Equipment include Hydro Truck Vac, which are available with 300- to 1,200-gallon debris tanks, 1,000 cfm blowers and 4-inch hose and tooling. The Jetter Truck Vac combines vacuum excavation with high-pressure jetter capabilities, with 1,000 cfm at 16 inches Hg vacuum blower, 800 to 1,200-gallon debris tanks, a 15 gpm at 3,000 psi jetter pump and 500 feet of 1/2-inch jetter hose. The Super Truck Vac is available with 500- to 1,200-gallon debris tanks, a 3,000 cfm PD vacuum blower and 6-inch hose and tooling. All come with a high-pressure water system, full hydraulic rear door, reverse pressure and Big Red filter housing that cleans air down to 0.5 microns.



888/822-8766; [www.vactron.com](http://www.vactron.com); Booth K233

## Herrenknecht Mechanized Tunnel Boring Machines

Mechanized **tunnel boring machines** from Herrenknecht can be used for all ground conditions and in diameters ranging from 4 inches to 62 feet. The product range includes tailor-made machines for transport tunnels (Traffic Tunneling) and supply and disposal tunnels (Utility Tunneling). Under the umbrella of the Herrenknecht Group, a team of specialists has formed to provide integrated solutions around tunnel construction with project-specific equipment and service packages.

See ad page 29



253/447-2300; [www.herrenknecht.com](http://www.herrenknecht.com); Booth K241

## Subsite Electronics Commander 7

The **Commander 7** display from Subsite Electronics offers enhanced capabilities to the TK RECON Series HDD Guidance System and delivers all vital tracking data to both the tracker and drill operators. It is compatible with both Apple iOS and Android devices. It has an expanded communication range, fast data rate speeds and a large, high-resolution 7-inch screen with intuitive, user-friendly icons. It offers users three ways to view their tracker data, including an Advanced Drill-To mode with PerspectiveView, an intuitive leap forward in data presentation that the company claims is "truly out of the box."

See ad page 3



800/846-2713; [www.subsite.com](http://www.subsite.com); Booth K375

## Infinity Tool PDC Reamer

**PDC Reamers** from Infinity Tool are designed with a taper and a spiral that help make perfect holes, no matter the distance. The purpose of the taper is to centralize the reamer in the pilot hole to ensure a symmetrical hole is cut, equalize the size of the cut from side to side and enable the driller to ream from pilot to finish bore in the majority of holes. Pulling tabs are also available for all of Infinity Tool reamers. They are manufactured in push or pull body configuration, can be used both horizontally and vertically, and are designed for 25,000 psi compressive strength or less hard formations.

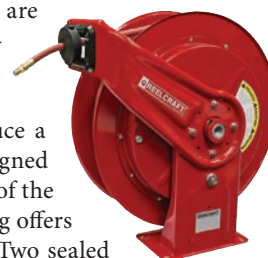
See ad page 45



888/838-6657; [www.infinitytoolmfg.com](http://www.infinitytoolmfg.com); Booth 3944

## Reelcraft Series HD70000

**Series HD70000** hose reels from Reelcraft are designed to accommodate up to 100 feet of 3/8-inch or 75 feet of 1/2-inch ID hose. The heavy-duty base design, all steel construction and a baked-on powder-coat finish combine to produce a rugged, corrosion-resistant product. A redesigned latching mechanism provides longer service life of the latch components. The containerized drive spring offers safer and easier handling during maintenance. Two sealed ball bearings produce a smoother spool rotation and easier operation. The guide arm adjusts to seven positions for various mounting locations and applications.



800/444-3134; [www.reelcraft.com](http://www.reelcraft.com); Booth 2339

## MB America Crusher

**Crusher** jaw crusher attachments for excavators, skid loaders, backhoes and loaders from MB America give contractors a versatile tool to navigate through narrow spaces and manage on-site processing. When contractors can crush onsite, they produce reusable material, optimize productivity and eliminate the need to transport material to a third-party processing facility. MB also offers trommel screening attachments, 360-degree rotation grapples and rotary drum cutters.

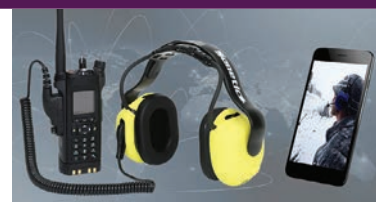


855/622-7874; [www.mbamerica.com](http://www.mbamerica.com); Booth 3422

## Sonetics Wireless Headsets

**Sonetics Wireless Headsets** protect hearing and let crews of two to 20 communicate hands-free at the same time. They help improve productivity and safety on the job site by eliminating the mistakes that come from missed or misunderstood communication. Listen-through technology lets the user toggle the right amount of outside sound for a boost of awareness and safety. Teamwork improves as users stay in touch across the work zone and easily coordinate complex tasks with better focus and concentration. It helps users train in the moment, instruct for precision and correct mistakes instantly while the work continues. Other two-way radios or Bluetooth devices can be connected for even more options.

See ad page 11



800/833-4558; [www.soneticscorp.com/construction](http://www.soneticscorp.com/construction); Booth 3906

(continued)

## HammerHead Trenchless Equipment HydroGuide HG2200

The 22-ton radio-remote controlled **HydroGuide HG2200** downhole winch from HammerHead Trenchless Equipment is designed for maximum efficiency and ease-of-use in pipe bursting, sliplining or slitting applications. It takes minutes to set up or tear down. Radio-remote control enhances ease-of-use, productivity and safety. Operators can fine-tune depth to 20 feet with the precision controls. Line payout speed is adjustable from 0 to 100 feet per minute, and pulling speed is 0 to 60 feet per minute. Line pressure is adjustable from 0.5 to 22 tons.

See ad page 33



800/331-6653; [www.hammerheadtrenchless.com](http://www.hammerheadtrenchless.com);  
Booth K265

## Hannay Reels N700 Series

**N700 Series** reels from Hannay Reels are versatile reels used for pneumatic tools, water, high-pressure uses, lubrication, air, steam and general industrial applications. The standard N Series has a narrow frame to handle 1/4- through 1/2-inch ID hose, and a compact mounting base to be mounted on trucks, trailers and walls. These reels have four-way roller assembly, nonsparking ratchet assembly and declutching arbor to prevent damage from reverse winding. The standard inlet has a 90-degree balanced pressure swivel joint with 1/2-inch female NPT threads, and the standard outlet has 1/2-inch female NPT threads.



877/467-3357; [www.hannay.com](http://www.hannay.com); Booth 2810

## VACMASTERS System 6000

The **VACMASTERS System 6000** is the first air-vacuum excavation system with the power to trench as well as pot-hole. It is designed from the ground up to lower costs, reduce injuries and eliminate damage claims. The system uses supersonic air to penetrate, expand and explode the soil from within, while keeping it dry for easy vacuuming and quick backfilling. In turn, this will also increase revenues and profitability by doing more work in less time.

See ad page 5

800/466-7825; [www.vacmasters.com](http://www.vacmasters.com); Booth K222



## Vactor Air-Only HXX Paradigm

The air-only version of the **HXX Paradigm** vacuum excavator from Vactor Manufacturing is equipped with the choice of air compressor rated at 185 cfm at 150 psi or 300 cfm at 250 psi. It can also be configured with several different water system configurations, including a wash-down system rated for 4 gpm at 2,500 psi equipped with a 100-gallon water tank, or a hydroexcavation system rated for 8 gpm at 2,500 psi equipped with a 300-gallon water tank.

See ad page 9

800/627-3171; [www.vactor.com](http://www.vactor.com); Booth 4906



## Vacall Recycler

The **Vacall Recycler** continuous water recycling system is a green option for AllJetVac combination sewer cleaners that vacuums water from sewer lines, puts it through a five-step filtering process, then uses the same water to continue jetting. Located in the front of the debris tank for protection, the system includes a 240-gallon clean water tank attached to a 10 gpm pump and 50-foot hose reel for wash down. It offers automatic continuous filtering, with no filter change, no backflushing after clean-out work, no need for city water, no need to drive to refill the water tank, lower truck fuel use, minimal maintenance and a high throughput rate.

800/382-8302; [www.vacall.com](http://www.vacall.com); Booth 4219



## Hyundai Construction Equipment Americas R35Z-9A

The **R35Z-9A** zero-tail swing excavator from Hyundai Construction Equipment Americas is powered by a 23.7 hp Yanmar engine. Its maximum digging depth is 10 feet 3 inches, and bucket breakout force is 6,900 ft-lbs. With a standard canopy, the unit has an operating weight of 7,800 pounds. It's also available with a cab. Standard bucket capacity is 0.14 cubic yards. It includes a thumb bracket, large dozer blade, hydraulic quick-coupler, attachment-ready auxiliary piping and auto two-speed function. Its boom swing enables the operator to offset the boom 75 degrees left and 50 degrees right, enabling close work alongside foundations and in congested areas. ▼

See ad page 7

877/509-2254; [www.hceamericas.com](http://www.hceamericas.com); Booth K345



# NOW BUILDING ON ALL CHASSIS

STOCK UNITS OR BUILD TO SUIT

URBAN X - DIG WITH  
WATER, AIR OR BOTH

SHOWN WITH A  
PETERBILT CHASSIS



**KAISER  
PREMIER**

H Y D R O V A C S

WWW.KAISERPREMIER.COM • 970-542-1975 • SALES@KAISERPREMIER.COM



## ELECTROCUTION PROTECTION

for Hydroexcavation Operators and Directional Drilling Equipment Operators



### Kri-Tech Bond Mats

protect workers who may come in contact with electrical high voltage.

**Hydro Excavation Operators, when excavating, are exposed to the risk of electrocution from several different ways:**

- Excavating Water Lines
- Excavating Around or Near Underground Power Cables
- Excavating Under Overhead Power Lines

**KRI-TECH**  
PRODUCTS LTD

TF: 1 (877) 788-3883  
P: (403) 788-3883  
[kri-tech.net](http://kri-tech.net)

# Are Employees Driving Your Rigs After-Hours?

## WATCH OUT FOR THE TAX CONSEQUENCES OF SENDING YOUR FLEET OF TRUCKS HOME WITH YOUR EMPLOYEES

BY ERIK GUNN

**D**oes your business have a fleet of company-owned service trucks? Dumb question! Of course it does.

Do you cover a sizeable territory — larger than a small town, say? Chances are pretty good the answer to that is “yes,” too.

And do some of your employees drive their service trucks home after work — at least sometimes — so that the next morning they can drive straight to the day’s first job without stopping at the shop?

If your response is another “yes” — well, no surprise there. Especially if your business reaches beyond your city limits, or even crosses county lines, and if your workforce is just as far-flung as your customers, that sounds like a commonsense practice.

### TAX IMPLICATIONS

Say that your technician lives 15 miles away in the next town and the first customer on tomorrow’s calendar lives in that very same community. Isn’t it smart scheduling to send Frank to that homeowner right away?

If your driver doesn’t first have to travel to the shop, get in his service truck and drive back, he could be at the customer’s home up to a half-hour earlier.

## YOU CAN REAP THE BENEFITS OF FLEXIBILITY AND EFFICIENCY THAT COME WITH ENABLING EMPLOYEES TO TAKE SERVICE TRUCKS HOME FOR A LEGITIMATE BUSINESS PURPOSE.

It can be a great way to save your customers money and help your business maximize the number of service calls you can make in a day.

Many contractors may take this practice for granted. If you’re one of them, pay close attention: You need to make sure you’re doing it right so that the IRS doesn’t come back to bug you. Yes, it’s an obscure problem, but that doesn’t make it any less real. As with many wrinkles in the tax code, what you don’t know can hurt you.

On the bright side, careful but fairly straightforward recordkeeping can solve the problem without dropping the basic practice.

### DEDUCTIBLE OR NOT?

Tax attorney Patricia Hintz, a partner at Quarles & Brady in Milwaukee, Wisconsin, counts many small businesses among her clients, and small-business ownership runs in her family.

Hintz was explaining the broader tax issue of how company vehicles get used day to day when this specific subject came up. “Vehicles are a real hot-button issue,” she says.

Company fleet vehicles are no exception.



Whether we’re talking about a company-owned vehicle or a private vehicle that an employee uses on the job, issue No. 1 is this, says Hintz: The only tax-deductible miles are the ones driven for work. Commuting miles don’t count.

A simple example: Suppose you, the business owner, drive a car owned by your company. During the day you drive it to meetings with clients, to check on your work crews at their job sites, and more.

All those on-the-job miles are legitimate business miles. They qualify for a deduction on your business federal tax return. (The same is true if you *don’t* have a company car but simply make those trips with your personal vehicle; the only difference is that the deduction for the mileage would be made on your personal income tax return — not the one your business files.)

But some miles you drive every day aren’t deductible — either in the company car or in your personal car: the miles you commute back and forth from home to work. IRS rules treat those as personal miles.

### SERVICE COMPLICATIONS

See how this can get complicated with service fleet vehicles?

Suppose your next-town-over employee drives a service truck home from the shop at the end of every day, and drives back to the shop first thing every morning.

Those are commuting trips. Your company can’t treat them as business mileage even though they’re driven in your business service truck.

# FOREMOST

## VAC TRUCKS



# FOREMOST 1600

The 1600 Hydrovac is built for anything.

42" or 70" van body | 1600 gallon capacity |  
Cat 3560 wash pump | 740,000 btu boiler |  
Omnex wireless controlled boom | Robuschi RBDV125  
blower | Complete winterization package

Visit us at the WWETT Show in the  
Indiana Convention Center  
**Booth no. 6333**

Ask us about our 1200, 1600 and  
brand-new Rival Truck!

To learn more, visit [foremost.ca](http://foremost.ca)  
or call **1.800.661.9190** (Canada/U.S.A.) **1.403.295.5800** (Worldwide)

**DESIGN. BUILD. PERFORM.**  
Engineered solutions for the resource industry.

But remember — one of the reasons you and many service contractors permit employees to drive service vehicles home is so they can go straight to that first job — and, in all likelihood, home from the day's final job.

In that case, the very first leg of the day from the employee's house to the first customer's location should be counted as commuting miles and therefore not tax deductible for your business (the truck's owner). The same is true for the last leg of the day: The miles driven from the last customer to the employee's home are nondeductible commuting miles.

All the other miles in between, from the first customer to the shop to every other job of the day and to the last customer, are legitimate, deductible business miles.

So you need to make sure your employee differentiates between those first and last nondeductible commuting legs and all the other deductible travel during the day in performing the job.

### OTHER COMPLICATIONS

But here's another wrinkle: The gas that the tech uses to drive from home to work and back every day. If you're not charging the employee for it, that's a form of income that must find its way onto your employee's annual W-2 form come tax time.

You could charge it back to your employee, but do you really want to send a message that makes you, the boss, look money-grubbing? Psychologically, if for no other reason, it's better just to add it to the employee's income statement. It's probably easier to manage your records that way, too.

A bigger headache can arise when employees make personal use of the company vehicle on their own time. If you don't capture those costs, they risk turning into a black hole. And once again, they need to be included in the employee's income statement.

Mileage records are essential for those nonbusiness uses, Hintz advises. Better yet, set strict rules on how employees use the vehicle off-hours.

Still another complication involves on-call policies. For an employee who

is on call overnight and so drives the service vehicle home, that might not count as commuting, Hintz notes. The key will be exactly how your on-call responsibilities are worded, among other things.

Ultimately, you'll need to consult with your lawyer and tax professional to draw up clear policies and procedures about how and when your employees take your service vehicles home.

### KEEP GOOD RECORDS

Make sure there is clear recordkeeping and consistent application of the rules. And make sure you keep good records. Numerous smartphone apps can keep personal or business mileage records. If your techs use smartphones on the job, it's worth investigating which of these tools might best help your business easily keep records and transfer them to whatever form you need for your annual business tax return.

By taking care to cross those *t*'s and dot those *i*'s, you can reap the benefits of flexibility and efficiency that come with enabling employees to take service trucks home for a legitimate business purpose.

And you can do so without getting tied up in tax knots.

### ABOUT THE AUTHOR

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



# Drop by.

[Facebook.com/DigDifferent](https://www.facebook.com/DigDifferent)

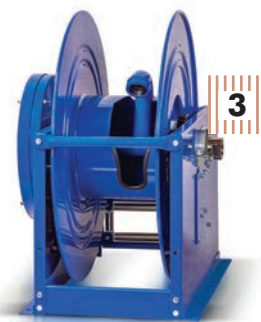
## THE LATEST: Products



1



2



3

### 1. Ditch Witch Rock Monster HD backreamers

Rock Monster HD backreamers from Ditch Witch are equipped with EdgeGuard protection that incorporates placement of tungsten carbide discs on critical areas of the bit shirrtail. High Energy Tumbling inserts improve cutting structure life through increased fracture toughness and wear resistance. The backreamers have interchangeable nozzles in multiple sizes, creating customizable fluid-flow specifications to specific drilling conditions. They are also armed with a premium sealed journal bearing and have standard API thread connections. **800/654-6481; [www.ditchwitch.com](http://www.ditchwitch.com)**

### 2. J&J Truck Bodies & Trailers' stainless steel tanker

J&J Truck Bodies & Trailers' stainless steel pressure vacuum tank has a 5,460-gallon capacity and is corrosion resistant. Tankers can be built in various configurations with capacities ranging from 3,360 to 6,000 gallons and are outfitted with one-piece aluminum hose trays, anti-surge

baffles, top and rear manways, and plug-and-play vacuum pumps. Options include toolboxes and onboard scales. **814/444-3400; [www.jjbodies.com](http://www.jjbodies.com)**

### 3. COXREELS nickel-plated steel inline swivel

The spring-driven 1 1/4- and 1 1/2-inch SLPL models from COXREELS come with a nickel-plated steel inline swivel, which increases the pressure rating of the inline plumbing from 250 psi to 1,500 psi. The steel is rugged and durable, and replaces the previously used aluminum model. The swivels use multilobe seals for improved leak integrity. The inline swivel is also available in stainless steel and boasts a less restrictive flow path than the 90-degree swivel. The axle plumbing in both the carbon and stainless steel models uses a swept riser design for improved flow efficiency. **800/269-7335; [www.coxreels.com](http://www.coxreels.com)**

## This Issue's Feature:

### Infinity Tool offers one tough reamer

BY CRAIG MANDLI

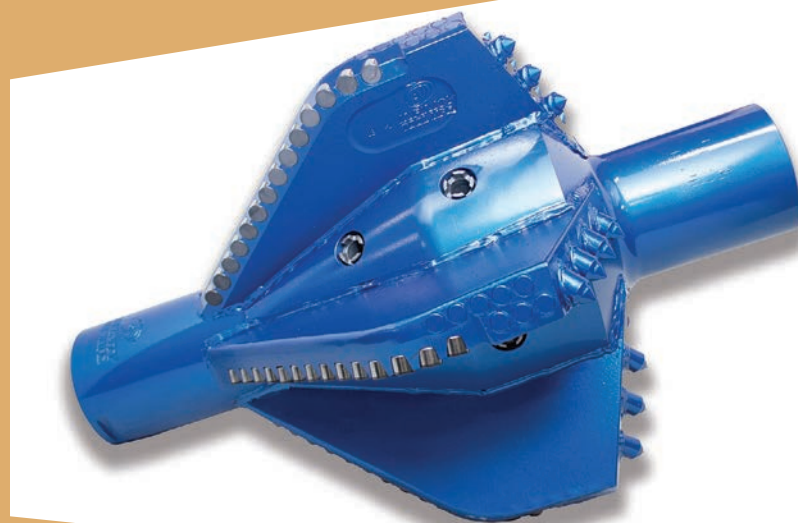
Horizontal directional drilling can be long, difficult work, especially when attempting to install pipe under difficult, rocky terrain. It is important that the hole stay even and symmetrical for an efficient, leak-free pipeline. **PDC Reamers** from **Infinity Tool** are designed with a taper and a spiral that help make perfect holes, no matter the distance.

"This unit is going to be a fit for any sort of small to large municipal pipeline being installed underground," says Todd Taylor, the owner and COO of Infinity Tool. "We stock sizes from 6 to 28 inches, and offer larger 30- to 48-inch sizes made to order."

The purpose of the taper is to centralize the reamer in the pilot hole to ensure a symmetrical hole is cut, equalize the size of the cut from side to side and enable the driller to ream from pilot to finish bore in the majority of holes. The spiral on the reamer helps to reduce chatter as well as reduce fluctuating torque, while speeding up bore projects significantly. Pulling tabs are also available for all of Infinity Tool reamers.

"On many occasions, drillers using PDC Reamers have completed bores 50 percent faster than using traditional HDD methods," says Taylor. "The contractors that are using these in the field end up wanting to use them on every hole they drill."

PDC Reamers are manufactured in push or pull body configuration, can be used both horizontally and vertically, and are designed for 25,000 psi compressive strength or less hard formations. PDC Reamers have been available since 2010, but according to Taylor they have evolved in the time since.



"We are continuously adding tweaks and features to make this product more user-friendly," he says. "We listen to the contractors that are using this product in the field, and take what they say about it into account." The company also understands that while its reamers are built durably, they do wear over time. That's why they offer a rebuild option where the user only needs to ship their worn reamer back to the Infinity Tool factory, where worn components are immediately replaced. The refurbished reamer is typically sent back to the contractor within one to three days.

"We obviously want our customers to get the most life out of their reamer as they can," says Taylor. "After we refurbish them, they'll work as good as new again."

PDC Reamers from Infinity Tool

**888/838-6657; [www.infinitytoolmfg.com](http://www.infinitytoolmfg.com)**

**ultra** **ultra** **ultra**  
**LIGHT – VERSATILE – SAFE**

## ultraSHORE PRODUCTS



Quick to Install.  
As light as 130lbs.



Roll Your Own.  
Optional wheel kit.



Stacks easily with  
2' & 4' high panels.

***This is What Aluminum Shoring Was Meant to be!***



**1-800-SH-ORING**

CALL TOLL-FREE NATIONWIDE • 1-800-746-7464

**www.shoring.com**

### THE LATEST:

## News

### CASE dealer donates equipment for projects in Massachusetts

CASE Construction Equipment dealer Robert Childs Inc. donated the use of five CASE machines to Team Rubicon to be used for land clearing and grassland restoration in the Coonamessett Reservation fields in Hatchville, Massachusetts. The equipment was used to help clear the land of overgrown invasive brush.

### Reelcraft to join Madison Industries

Reelcraft will join Madison Industries' safety and flow vertical, subject to regulatory approval. Customers will keep current sales representatives and source products through existing channels and points of contact. ▼▼

**Visit [digdifferent.com](http://digdifferent.com)**  
daily for exclusive news,  
features and blogs.

*Connect with us!*



[facebook.com/DigDifferent](https://www.facebook.com/DigDifferent)



[twitter.com/DigDifferent](https://twitter.com/DigDifferent)



[linkedin.com/company/dig-different-magazine](https://www.linkedin.com/company/dig-different-magazine)

**WEQFAIR**  
Wastewater Equipment Fair

**OCT. 17-18, 2017  
NASHVILLE, TN**

**WEQFAIR.COM**

**REGISTER NOW!**

**WJTA-IMCA**  
**2017** conference **EXPO**  
Oct. 25-27 • New Orleans

**Safety Best Practices, Equipment and  
New Technologies for Industrial  
and Municipal Cleaning**



- **Waterjet Short Course - Basics & Beyond**
- **Live Demos**
- **Expanded Exhibit Hall**
- **Valuable Networking Opportunities**
- **Educational Sessions to Improve Your Safety and Bottom Line**
- **Technical Research Papers and Case Studies**



**www.WJTAIMCAExpo.com**  
**wjta-imca@wjta.org • (314) 241-1445**

Presented by the WaterJet Technology Association and Industrial  
& Municipal Cleaning Association (WJTA-IMCA).

# Attacking From the Air

## CONTRACTOR SUSPENDS DIRECTIONAL DRILL BY CRANE TO AVOID SLOWDOWN ON PROJECT TO STABILIZE BRIDGE

BY CORY DELLENBACH

**D**avis Underground Solutions has handled its share of unique jobs, from installing drainpipe in a salad dressing factory to dealing with varying ground conditions.

In June, the directional drilling company based in Powder Springs, Georgia, was hired to help with repairs to a temporary bridge on a road construction site. At first it doesn't sound too difficult, but add in the fact that they had to do it while the drill was suspended by a crane, and the difficulty meter shoots up.

"We had never done anything like this before," says Matt Davis, owner and vice president. "It was a hurry-up-and-help-us type of phone call from the general contractor."

### REPAIRING THE BRIDGE

Crews working on a two-year project to rebuild a bridge and roadway near Cartersville, Georgia, had put up a temporary bridge to allow traffic to move around the primary bridge.

Instead of using the typical fill under the temporary bridge — gravel and pressure-run pipe — a subcontractor backfilled using only dirt.

**"WE HAD NEVER DONE ANYTHING LIKE THIS BEFORE. IT WAS A HURRY-UP-AND-HELP-US TYPE OF PHONE CALL FROM THE GENERAL CONTRACTOR."**

Matt Davis

"With all the rain we're getting this year, the dirt under the bridge started to erode," Matt says. "The general contractor needed to do some tie-backs to ensure the structural integrity of that bridge."

### FIGURING OUT THE JOB

Matt got the phone call from the general contractor and once on the job site, he learned that crews would have to use a directional drill to push through a wooden wall on the side

of the bridge, drill under the bridge and out the other side. Crews would then pull back 1 1/4-inch threaded rods.

"They needed those steel rods in there to secure the I-beams because it looked like they were flexing out a little bit," Matt says. "They had to tie those back into each other to hold them steady."

Next, Davis Underground crews had to figure out how to position a Ditch Witch JT9 directional drill.

"Holes were cut into the walls on each side of the bridge and we had to set up our drill and shoot through those 6-inch holes and to the other side," says Jim Davis, vice president of operations. "The problem was the holes varied between 7 and 15 feet high."

One of the first options considered was to haul in dirt to create a ramp and a flat ground surface to drive the drill up to do the work. But that would have required at least three to four more days on the job site and valuable time lost by the general contractor.

The JT9 directional drill (Ditch Witch) was lifted anywhere from 7 to 15 feet in the air to reach the drill positions on a job site in Cartersville, Georgia, where crews were stabilizing a temporary bridge.



PHOTO COURTESY OF DAVIS UNDERGROUND SOLUTIONS

**PROJECT:** Stabilizing a temporary bridge  
**CONTRACTOR:** Davis Underground Solutions, Powder Springs, Georgia  
**EQUIPMENT:** JT9 directional drill  
 Ditch Witch, Perry, Oklahoma  
 800/654-6481 / [www.ditchwitch.com](http://www.ditchwitch.com)  
**RESULTS:** Successfully pulled through four shots of rods to stabilize the I-beam of the temporary bridge after two days on the job

**DOWN  
& DIRTY**



Crews drilled through predrilled 6-inch holes from one side of the bridge to the other where they then pulled back 1 1/4-inch threaded steel rods to stabilize the structure.



A Link-Belt crane was used to hoist the drill to the proper positions.

## "ONE OF THE TOUGHEST PARTS WAS JUST GETTING THE DRILL STABILIZED WITH CHAINS TO THE WALL SO IT WOULDN'T PUSH TRAILERS BACK AS WE WERE DRILLING."

Jim Davis

"As I was talking to the contractor I saw a crane off-loading a truck behind him," Matt says. "There was another crane sitting behind me and I asked the contractor how much weight it could hold. He said plenty and I asked if it would hold 20,000 pounds. He said it could without a problem and at that moment he caught on to what I was thinking."

### SETTING UP THE DRILL

Crews loaded the drill onto a flatbed trailer and lifted it into the air using the crane (Link-Belt). One crew member stayed on the trailer with the drill to operate it, two other workers stayed on the ground to coordinate, and one worker stood on the ground above giving direction.

"One of the toughest parts was just getting the drill stabilized with chains to the wall so it wouldn't push the trailer back as we were drilling," Jim says. "Every time we went to drill, it would push the trailer back before we got the chains to secure it."

Davis Underground crews chained the drill to the ground on each side. Crews then found that as the drill pulled back the steel rods another problem developed. "It was pulling the trailer and the drill closer to the wall," Jim says. "So we put the ramps on the trailer down and let them go against the wall to keep the trailer from moving to the wall as we pulled."

### COMPLETING THE JOB

It took crews two full days to complete the job with four different shots. Davis Underground had four workers on site the first day, and two on the second day.

"Whoever cut the holes in the walls didn't line them up exactly, so after we got the drill into the first wall, we had to steer pretty hard in order for it to come out in the right place on the other side," says Jim. "We pushed through though."

Matt was pleased with the work that his crews were able to accomplish. "It actually went very smoothly," he says. "We got paid a pretty good price on it. It shows that a little bit of outside-the-box thinking and expertise goes a long way, and made a relatively tough situation into a simple solution." ▼

**Non-Wind Deflectable**  
C-Stands™ are economical and fulfill the most basic compact stand needs.

**Short Leg Extended:**  
43" W x 72" D x 23" H

**Short Leg Folded:**  
8.5" W x 7.5" D x 25" H

**Long Leg Extended:**  
49" W x 80" D x 23" H

**Long Leg Folded:**  
1.5" w x 7.5" D x 30.5" H



Model No.	Legs & Half-Mast	Weight
C-101-S-KLSH	Galv. Steel - Short Leg	20 lbs.
C-601-S-KLSH	Aluminum - Short Leg	15 lbs.
C-101-L-KLSH	Galv. Steel - Long Leg	22 lbs.
C-601-L-KLSH	Aluminum - Long Leg	17 lbs.

### Leg-Release Systems



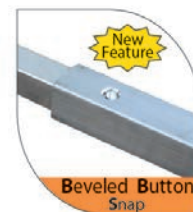
Kick-Lever



T-Pin



Direct Drive



Beveled Button Snap

### Storage-Bracket



Model No. C-TMB

Truck Mount Storage Bracket fits all C-Stands. Easy to install, inside or outside of truck for quick and convenient storage.

### Sign-Attachments



Spin-Handle

ICUE BOOTH 3951



Quick-Attach

**Eastern Metal**  
of Elmira, Inc.  
(LBS. SIGN)  
Customizing your sign environment

1430 Sullivan St.,  
Elmira, NY 14901

800-872-7446  
607-734-2295  
[www.usa-sign.com](http://www.usa-sign.com)

# Better Protection for Your People

## NEW WEARABLE TECHNOLOGY IS BRINGING A HIGHER LEVEL OF SAFETY TO JOB SITES

BY CORY DELLENBACH

**T**he dangers on your job sites are constant, and staying safe requires more than a hard hat, gloves and glasses. As technology advances, manufacturers are finding new ways to keep workers safer.

Warning lights on hard hats, belt-clip sensors that monitor lifting mechanics, and devices that warn you when entering dangerous work zones are just some of the technologies hitting the market this summer.

"It's still early days. You're going to see improvements in the near future with technology and safety," says Jonathan Horne, vice president of product management for Redpoint Positioning. "I think we're right at that point where technology is about to start taking off."

### SAFETY BADGE

Redpoint Positioning is just beginning the commercial deployment phase of its indoor GPS system, which allows contractors to warn workers if they enter a dangerous area.

"If you think about it as GPS, you've got satellites that are broadcasting timing signals to the planet but those signals don't penetrate buildings or underground," Horne says. "We go in and install equipment that takes the place of GPS. It's effectively a wireless mesh network that's broadcasting timing signals. We install that in the building or underground and it can be extended to a large area."

Workers wear ID badge-like devices with a display, visual alarm and audible alarm that attaches to a vest or jacket. The badge is how the Redpoint system tracks the employee. The supervisor sets up work zones and dangerous areas using software on a tablet. If an employee enters that zone when they aren't supposed to, both visual and audio indicators will alert them.

It can be set up on a credential basis too. If there is a confined-space work zone, only properly trained workers will be allowed to enter that area. If a worker without qualified training passes into that zone, the badge will alarm.

"At the end of the day, we're really hoping that we can make a difference in the safety aspect of construction sites," Horne says.

### DISPOSABLE MONITORS

Sticking with devices that can attach to your vest, technical advances have made H<sub>2</sub>S monitors easier to use and more reliable, according to Patti Dutton, marketing supervisor for Gas Clip Technologies.

"We offer a single-gas 'disposable' H<sub>2</sub>S monitor, the Single Gas Clip, that is relatively inexpensive up front, extremely rugged, never requires battery changing or calibration, and is disposed of at the end of its two years of operational life."



The V22 ErgoSkeleton from StrongArm Technologies is designed to aid workers in lifting of material.

PHOTO COURTESY OF STRONGARM TECHNOLOGIES

**"YOU'RE GOING TO SEE IMPROVEMENTS IN THE NEAR FUTURE WITH TECHNOLOGY AND SAFETY. I THINK WE'RE RIGHT AT THAT POINT WHERE TECHNOLOGY IS ABOUT TO START TAKING OFF."**

Jonathan Horne

The Texas-based company also has a multigas clip monitor used for general field operation or confined-space entry that provides two months of continuous runtime. "One employee can wear it all day long and then hand it off to another employee at the start of the next shift," Dutton says. "This can be repeated day after day for two months without having to take valuable time out to recharge the battery."

In the case of multigas monitors, there are two basic kinds of technology for detecting combustible gases — catalytic bead sensors and nondispersive infrared sensors (NDIR). Catalytic bead sensors were developed in the 1960s while the new version of NDIR sensors using a low-power photodiode/LED source are more recent, says Bryan Bates, Gas Clip's president and chief executive officer.

Gas Clip Technologies uses the infrared technology for several reasons, including its ability to operate in low-oxygen environments — something the traditional catalytic bead sensors cannot do.

Managing hazardous gas exposure is essential for ensuring continuous protection, which is why Gas Clip Technologies' monitors also serve as a mini "black box," recording various information and data that can later be downloaded and analyzed.



An H<sub>2</sub>S monitor from Gas Clip Technologies can be attached to a safety vest or other work wear to keep the workers safe from unseen gases.

PHOTO COURTESY OF GAS CLIP TECHNOLOGIES

## PROPER LIFTING

Poor lifting mechanics are responsible for the most common workplace injuries. According to a study by the Bureau of Labor Statistics, over 36 percent of the injuries involving missed workdays were the result of shoulder and back injuries. Overexertion and cumulative trauma were the biggest factors in these injuries.

Both Caterpillar and StrongArm Technologies have developed tools to help the workforce with its lifting problem.

Caterpillar recently debuted a small belt-clip device that will detect when an employee performs a high-risk lifting motion and provide immediate feedback in the form of vibration. "This feedback allows employees to self-correct behavior, save their back from accumulated stress, and keep safety top of mind," says Cody Renshaw, strategy and analytics manager for Caterpillar.


During testing at a large construction site, the crew wearing the device experienced a 46 percent reduction in high-risk postures after three weeks of use.

StrongArm Technologies is aiming to help the workforce with lifting power with its V22 ErgoSkeleton. The V22 is an external spine that attaches to your back using a belt across the worker's waist. Hand effectors attached to ropes coming from the shoulder area attach to the worker's middle finger and ring finger on each hand.

The ErgoSkeleton becomes integral with the worker's musculoskeletal system to improve lifting dynamics, safety and efficiency. "The hand effectors have strings that transfer the load you are lifting from your hands, across your shoulders, down the spine and around your iliac crest," says Mike Kim, chief technology officer for StrongArm. "So you kind of have strings attached from your hands all the way down to your waist."

The ErgoSkeleton directs 80 to 90 percent of the load force to the strong muscles in a person's buttocks and legs over the span of the lift. It concurrently transfers 50 to 75 percent of the force from the weaker tissues and muscles in a person's hands, arms and lower back.

"The V22 is very specific to certain job functions and tasks, it's not one solution for all lifting tasks," Kim says. "If you're lifting anything above your

**VISIT US AT ICEE EXPO** 



**INFINITY<sup>®</sup> TOOL MFG.**  
**BOOTH 3944**

**INFINITY<sup>®</sup> TOOL MFG.**

We offer you the industry's leading line of HDD bits for:  
**ROCK, HARD CLAY, SANDSTONE, SHALE or LIMESTONE**



**PDC BITS, PDC REAMERS & SLANT FACED BITS**



**infinitytoolmfg.com**  
**1-888-838-6657**



A road construction crew member wears a Halo LED light ring from Illumagear to make himself more visible to surrounding traffic.

shoulder, we don't recommend you use a V22 for that, but if you're lifting something that's over 15 or 20 pounds and you're carrying it over a long distance, those are the kind of things we recommend."

## LIGHTING THE WAY

Your work regularly exposes you to traffic, and visibility is critical for safety. Many contractors rely on safety vests and lights from the nearby work trucks to light them up.

Illumagear introduced a new way to keep workers safe with its second Halo product in March. The Halo is an LED light ring that clips securely around any hard hat.

"It uses spring-tension clips and you press it down," says Andrew Royal, president and chief product officer for Illumagear. "It works like a Chinese fin-

ger trap where the more you press down, the harder it is to come off. It's important it stays on the hard hat, but at the same time it's also important that we don't invalidate the ANSI rating of the hard hat, that's why it will slide off with the right motion."

Unlike the first Halo model introduced three years ago, the newest version isn't tethered to a battery pack worn on a belt. The new version holds the battery right on the Halo.

The Halo has four modes. The first mode puts out 276 lumens in 360 degrees. The second mode still has all of the lights on, but they are rotating around the hard hat. The third mode is the task mode, where most of the power is pushed to the front where you can see what you are working on. The fourth mode is a dim mode for when people come to talk to the worker.

A single battery charge can power the Halo for 5 1/2 hours.

## CONNECTING IT ALL

Royal is excited to see where safety features are heading in the industry and expects to see manufacturers working together in the future to improve upon their effectiveness.

"We don't think of personal active safety systems as an Illumagear thing, we think of it as an important construction industry thing and we just want to be a part of that," Royal says. "We see other companies doing things with regard to GPS tracking, monitoring of proximity to danger, things like that. All those things we're looking into as well and working with other manufacturers." ▼

**For more** on each of these wearable technology devices, go to **digdifferent.com**

# DISCOVER THE NO-DIG EXPERIENCE:



Attend the largest trenchless technology conference in North America. Choose from **160+ technical paper presentations** and learn about new industry advancements. Make **new connections** in the exhibit hall featuring over **190 industry related companies**. Watch **live demonstrations** in the hall and find solutions to your projects. Hang with old friends at fun events like the Educational Fund Auction or Gala Dinner. **This is the place to expand your trenchless knowledge and gain lasting memories!**

## APPLY

for the  
Municipal &  
Public Utility  
Scholarship  
today.

[NASTT.ORG/  
MUNICIPALSCHOLARSHIP](http://NASTT.ORG/MUNICIPALSCHOLARSHIP)

FOR MORE INFORMATION VISIT [NODIGSHOW.COM](http://NODIGSHOW.COM)

# Happenings

## CALENDAR

**Sept. 30-Oct. 4**

**90th Technical Exhibition and Conference (WEFTEC)**, McCormick Place North and South, Chicago. Visit [www.weftec.org](http://www.weftec.org)

**Oct. 3-5**

**International Construction & Utility Equipment Exposition (ICUEE)**, Kentucky Exposition Center, Louisville, Kentucky. Visit [www.icuee.com](http://www.icuee.com)

**Oct. 24-26**

**EquipmentSHIFT**, San Antonio Marriott Riverwalk, San Antonio. Visit [www.aemp.org/page/SHIFT2017](http://www.aemp.org/page/SHIFT2017)

**Oct. 25-27**

**WJTA-IMCA Conference & Expo**, Ernest N. Morial Convention Center, New Orleans. Visit [www.wjta.org](http://www.wjta.org)

**Oct. 28-29**

**Utility Contractors' Association of New England 63rd Annual Banquet**, Boston Marriot Newton Hotel, Boston. Visit [www.ucane.com](http://www.ucane.com)

**Nov. 28-29**

**Risk Management in Underground Construction Conference**, Residence Inn Arlington Capital View, Washington, D.C. Visit [www.undergroundriskmanagement.com](http://www.undergroundriskmanagement.com)

**Jan. 21-26, 2018**

**Underground Contractors Association of Illinois Annual Convention**, Mauna Lani Bay Hotel & Bungalows, Kohala Coast of Hawaii. Visit [www.uca.org](http://www.uca.org)

**Jan. 30-Feb. 1**

**Underground Construction Technology (UCT) International Conference & Exhibition**, Ernest N. Morial Convention Center, New Orleans. Visit [www.uctonline.com](http://www.uctonline.com)

**Feb. 21-24**

**Water & Wastewater Equipment, Treatment & Transport (WWETT) Show**, Indiana Convention Center, Indianapolis. Visit [www.wwettshow.com](http://www.wwettshow.com)

**Feb. 22-23**

**Horizontal Directional Drilling Academy: Mastering Crossing Applications**, Sheraton Phoenix Airport Hotel, Tempe, Arizona. Visit [www.hddacademy.com](http://www.hddacademy.com)

**March 6-8**

**Common Ground Alliance (CGA) Excavation Safety Conference & Expo**, Phoenix Convention Center, Phoenix. Visit [www.cgaconference.com](http://www.cgaconference.com)

**March 6-9**

**National Utility Contractors Association (NUCA) Annual Convention**, Wyndham San Antonio Riverwalk, San Antonio. Visit [www.nuca.com/convention](http://www.nuca.com/convention)

**March 20-23**

**AEMP 36th Annual Conference**, Rosen Plaza Hotel, Orlando, Florida. Visit [www.aemp.org](http://www.aemp.org)

**March 22-24**

**Mid-America Trucking Show**, Kentucky Expo Center, Louisville, Kentucky. Visit [www.truckingshow.com](http://www.truckingshow.com)

**March 25-29**

**NASTT's No-Dig Show**, Palm Springs Convention Center, Palm Springs, California. Visit [www.nastt.org](http://www.nastt.org)

Send contributions to our Happenings column to [editor@digdifferent.com](mailto:editor@digdifferent.com). ▼



# VAC-CON

**MORE POWER TO YOU**



**MUDSLINGER**

## The New Vac-Con Mudslinger

manufactured by **Vector**

535 or 845 gallon debris tank  
4 GPM @ 4,000 PSI  
1,200 CFM/16" HG PD blower  
66.8 HP Kubota diesel

225 or 325 gallon water tank  
11' hydraulic boom with 270° rotation  
Heavy duty welded tube steel trailer



**VAC-CON.COM**  
855.336.2962  
e-mail: [yns@vac-con.com](mailto:yns@vac-con.com)  
HOLDEN INDUSTRIES Companies



Vector Technologies Ltd.  
**VECTOR-VACUUMS.COM**  
800.832.4010  
e-mail: [inquiry@vector-vacuums.com](mailto:inquiry@vector-vacuums.com)





**Tex-Comm**  
(THE GREEN MONSTER)  
> Heavy Duty Abrasion Resistant Suction Hose  
> Sizes: 2" - 12"  
> Available in bulk rolls or custom cut lengths

**Kanaflex**  
**180AR**  
> Heavy Duty Abrasion Resistant Suction Hose  
> Sizes: 2" - 12"  
> Available in bulk rolls or custom cut lengths

Mention this ad for an exclusive discount!



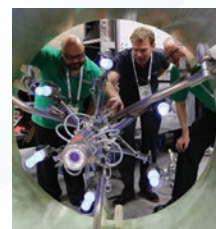
**1.800.325.3730**  
[www.MilwaukeeRubber.com](http://www.MilwaukeeRubber.com)



# SAVE THE DATE!

# INDIANAPOLIS 2018

The WWETT Show - Water & Wastewater, Equipment, Treatment & Transport - is the world's largest annual trade show for wastewater and environmental services professionals. With 600 exhibiting companies, 110 conference sessions, and a schedule of great events, the WWETT Show provides value to professionals from every facet of our field.




EDUCATION: FEBRUARY 21-23

EXHIBITS: FEBRUARY 22-24

INDIANA CONVENTION CENTER

## WHY SHOULD YOU ATTEND?

- ✓ **Explore the Marketplace** for tools and resources you need for your business
- ✓ **Education** taught by some of the best and brightest in the industry
- ✓ **Events** to network with your peers - or just kick back with friends.

MORE INFORMATION AT [WWW.WWETTSHOW.COM](http://WWW.WWETTSHOW.COM)



BY CRAIG MANDLI

## Safety/Personal Protection Equipment

### RKI Instruments GX-2012

With three operating modes, the GX-2012 from RKI Instruments can be used for confined-space safety monitoring in its normal operating mode, for leak investigation in leak check mode, and for underground leak checking in bar hole mode. When equipped with an optional TC sensor, it can measure 100 percent volume methane and dynamically auto-range from percent LEL to percent volume, making it ideal for line purge testing. It is RKI's smallest personal one- to five-sensor gas monitor with a built-in sample pump. Weighing only 12.3 ounces, it can monitor the standard confined-space gases (LEL combustibles, oxygen content, carbon monoxide and hydrogen sulfide). Its large LCD display shows all gas readings, battery level, current time, and will automatically backlight in alarm conditions. Standard alarm types include vibration, visual and audible alarms, which can be set to latching or nonlatching. 800/754-5165; [www.rkiinstruments.com](http://www.rkiinstruments.com)



### Sonetics wireless communication

Sonetics wireless communication systems let crews talk to each other in real time, completely hands-free, with no interruptions or stopping equipment. They can deliver clear instructions and answer questions directly while the work rolls on. They help crews maintain precision through continuous communication. Job quality and performance increase as mistakes are reduced. When the headsets are on, the crew is fully protected. Since they can talk to each other, there's



no need to remove them. The crew can get warnings, alerts, instructions and updates instantly to avoid hazards, injuries and mistakes. 800/833-4558; [www.soneticscorp.com](http://www.soneticscorp.com)

## Shoring

### American Shoring Slide Rail Shoring System

The Slide Rail Shoring System from American Shoring can be used in a number of configurations, including for bore pits under roadways, streams or other obstacles. The sheeting system can be used at depths up to 30 feet and is installed with an excavator, with no need for special equipment. The system can also be equipped with a doghouse panel to accommodate the casing pipe. 800/407-4674; [www.americanshoring.com](http://www.americanshoring.com)



### Prospan Manufacturing PRO-Lite

The PRO-Lite from Prospan Manufacturing is a lightweight aluminum trench shield that weighs under 100 pounds. It stands 3 feet tall and comes in either the 5- or 7-foot length. Each shield is stackable to the maximum depth of 12 feet. Each shield requires two spreader bars, either fixed-length or adjustable. Storage, transport and deployment of the shield is easy. 630/860-1930; [www.prospanshoring.com](http://www.prospanshoring.com)



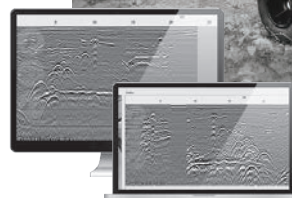
## IDS GeoRadar

### Opera Duo

First class ground penetrating radar for utility location and mapping surveys



- > High quality data and intuitiveness for accurate on-site results.
- > Two antennas, 250MHz antenna gives depth while the 700MHz antenna gives clarity near the surface.
- > Pivoting head allows for ground coupling for better imaging and accuracy
- > Paired with a Zeno GG03 GNSS system the Opera DUO can provide 2-5cm accuracy and at the lowest price on the market



starting at  
**\$15,500**

Keep watching for UNext our revolutionary software platform



IDS GeoRadar North America Inc.  
[www.idsgeoradar.com](http://www.idsgeoradar.com) • (303)-232-3047

## Wheeled Trenchers

### Ditch Witch MT16

The MT16 microtrencher from Ditch Witch is designed to cut narrow trenches 1/2 to 2 inches wide and up to 16 inches deep. An integrated hydraulic accumulator maintains constant pressure on the saw frame for sharper-edged cuts and improved spoils removal. An infinitely variable hydraulic plunge feature eliminates manual adjustment of the trencher by providing variable depth control from 0 to 16 inches. The unit's frame swings up to 6 degrees in each direction, enabling operators to cut on a street corner or around a cul-de-sac. 800/654-6481; [www.ditchwitch.com](http://www.ditchwitch.com)




### The Toro Company RT600

The RT600 riding trencher from The Toro Company is built to deliver smooth, consistent performance in tough digging conditions. Its PowerTrench trencher drive incorporates a flywheel, torsion shaft and planetary gearset design. The planetary gearset multiplies the hydrostatic motor torque, while the flywheel and torsion shaft design store inertial energy, which is then released in tough conditions to deliver powerful and consistent trenching performance. It has a 65 hp Cummins B3.3 four-cylinder, liquid-cooled diesel engine. The dual hydrostatic system provides optimal performance for trenching and plowing. It has four-wheel steering for maneuverability and incorporates crab steering for improved handling on slopes. 855/493-0088; [www.toro.com](http://www.toro.com)



**WATER CANNON UNDERCARRIAGE CLEANERS**



**7 POSITION ADJUSTMENT**

21" or 30"  
4000 PSI  
250° F  
**\$985**

---

**TIRE CLEANER APPLICATOR**

39" high  
with stand and  
10" diameter  
4000 PSI  
Starting At **\$765**

---

**UNDERCARRIAGE CLEANER**

24"  
4000 PSI  
250° F  
Starting At **\$499**

---

**UNDER CAR-WATER BROOM**

16" - 4 Nozzle  
4000 PSI  
250° F  
**\$45.99**

WaterCannon.com 35th Anniversary 1.800.333.WASH (8274)

## EXPLORE OUR OTHER OPTIONS

**Find us at: DigDifferent.com**

- NEW EQUIPMENT
- DIG DIFFERENT BUYER'S GUIDE
- ARTICLES Current and Past Issues, Online Editorial, Editor's Blog
- CLASSIFIEDS
- INTERACT E-Zines, E-Newsletters and Discussion Forums
- And more.

**digDIFFERENT**

**SLOW AND STEADY**

Focus on customers, not growth, keeps Michigan contractor busy

WANT MORE DIG DIFFERENT?

LIKE US FOLLOW US

YouTube VIEW US

**GET EMAIL NEWS ALERTS FOR digDIFFERENT**

Go to [digdifferent.com/alerts](http://digdifferent.com/alerts) and get started today!

## CLASSIFIEDS

### EQUIPMENT & TOOLS

**GENEVA EQUIPMENT**

**Frac Tanks from Geneva Equipment**

500 bbl. (21,000 gallons) portable frac tanks. 1,000+ tanks available. Epoxy lined. Delivered to your door. D11

Call 855-202-2213 or [tom@genevaequipment.com](mailto:tom@genevaequipment.com)  
[www.genevaequipment.com](http://www.genevaequipment.com)

**New Roots Blowers** - Best price & in stock. Reconditioned exchange program. Volume discounts. Call Pat's Pump & Blower at 800-359-7867 or email [PatsPump@aol.com](mailto:PatsPump@aol.com) (D03)

2015 Freightliner 108SD 6x6 with RamVac HX9 body. Like new with fresh inspection/DOT! Low miles and blower hours. Only \$239,000! More info available. Call Jason at 303-301-7684 or [jmitchell@transleaseinc.com](mailto:jmitchell@transleaseinc.com) (P11)

**Like-New, Perfect condition, Financing available!** New AmeriVac MaxVax 1000T Hydrovac System truck mounted on 2016 Western Star 4700 SF tandem-axle chassis. Cummins ISL/350hp, Allison 3000 RDS 6-speed, 272" WB, aluminum wheels, 16,000 front/40,000 rear axle capacity. 10-yard debris tank, 1,000-gallon freshwater tank, heated enclosure, 10gpm @ 2,500psi water pump, 3,000cfm Roots PD bi-directional blower, 6" vacuum system, water lance package, complete electrical controls, AmeriVac Smartdig touchscreen display. Please call for pricing and financing options. Location: Pearland, TX. PBM

**Mark Chabra 203-956-3335**

LIST YOUR EQUIPMENT FOR SALE!  
[www.digdifferent.com/classifieds/place\\_ad](http://www.digdifferent.com/classifieds/place_ad)

# WEQFAIR

Wastewater Equipment Fair

**OCT. 17-18, 2017  
NASHVILLE, TN**

Live demonstrations and operational equipment for the water and wastewater industries!

**\$20**  
per person

**TUESDAY Oct. 17th**  
Fair Hours: 12 p.m. - 5 p.m.

**WEDNESDAY Oct. 18th**  
Fair Hours: 9 a.m. - 1 p.m.

★ **OUTDOOR EVENT** ★  
**RAIN OR SHINE**

Call **866-933-2653** or view complete details at: **WEQFAIR.COM**

# BUILT BY THE OPERATOR FOR THE OPERATOR



888-442-7829 Johnstown, PA 281-884-8658 La Porte, TX



We UNDERSTAND that downtime wastes time and money.  
That is why GapVax builds SIMPLE control systems with  
MANUAL electronic override options...

GapVax keeps you RUNNING.



[www.gapvax.com](http://www.gapvax.com)



# EXPERIENCE THE EVOLUTION.



THE ALL-NEW  
**JT40**



Optimized for maximum performance, the JT40 features next generation enhancements and 20 horsepower more than the competition. It delivers unparalleled visibility, operator comfort and enhanced productivity. The future is here.

Learn more at [ditchwitch.com](http://ditchwitch.com).