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## DOWN & DIRTY:

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HELP TACKLE DREDGING JOB

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Michael Willhite  
President  
Willhite Grading & Excavation

# DIGGING WITH A TWIST

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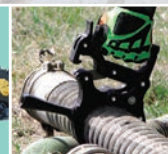
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By **Suzan Chin-Taylor**

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Michael Willhite, president of Willhite Grading & Excavation, stands with his company's CAT 308E2 fitted with an engcon EC209 tiltrotator at a job site near Santa Barbara, California. The company, founded in 2011, offers services such as grading and excavation, soil stabilization, erosion control, and dry utility installation throughout the central California coast. (Photography by Matt Dayka)

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## Facing Challenges Head-On

**FEARLESSLY TAKING ON TOUGH JOBS IS ONE WAY YOUR COMPANY AND CREW CAN BE EVEN MORE PROFITABLE**

BY CORY DELLENBACH, EDITOR

**E**very utility construction company has taken a job that brings on headaches, colorful language and some extra work to complete.

We've shared some of those stories in *Dig Different* magazine. Some of those have involved directional drilling many feet underground and under rivers to get to the exit pit, or vacuum excavating under a hospital while hospital operations continue, or maneuvering tunneling projects around tight corners.

As much as you complain about those jobs, I'd have to bet that contractors enjoy them to some extent as well. If every job were easy and simple, you'd get bored.

### HIGHLIGHTING THE TOUGH JOBS

Do you go out and seek the tough jobs, or do you just take them as they come? Some contractors we've talked to over the years take on only those hard-to-do jobs. Those jobs that others say aren't possible or those that other contractors have attempted but couldn't get done.

Then other contractors will take them on as they come but won't specifically go out and seek them. What kind of contractor are you?

The North American Society for Trenchless Technology No-Dig Show is probably my favorite show to go to because it's the one where attendees get to sit in on sessions where you hear about the tough jobs other contractors are taking on and how they worked through challenges they faced.

It's inspiring hearing about these jobs. It can be a valuable learning experience for anyone in the industry, from rookie to veteran.

### SHARING WHAT YOU DO

As much as you might dread doing those tough jobs, when you do get them and complete them, don't be afraid to share the news!

Chances are there are potential municipalities, commercial or industrial customers who are looking for contractors for a similar job. If you post about your tough job successes on your website, social media or in various industry publications, those potential customers could see you were successful and reach out to you.

### IMPROVING SKILL SET

The other advantage to taking on those tough jobs — or even just sitting in on educational sessions where they are talked about — is that your crews handling those jobs will get better.

As the crew members learn different ways of doing things and find new tools to help them, it will end up benefiting your business because you'll have employees who can handle more. That will make your company more appealing to customers looking to hire you.


While it's nice having the easy jobs, don't be afraid to toss in a really tough one and see what your crews are capable of doing. They might just surprise you.

### BRAG ABOUT IT

I want you to brag about the tough jobs you've handled. Tell me about them and you could see that job in the pages of *Dig Different*. Call me at 715-350-8436 or email me at [editor@digdifferent.com](mailto:editor@digdifferent.com). I look forward to hearing from you. ▼



AS THE CREW MEMBERS LEARN DIFFERENT WAYS OF DOING THINGS AND FIND NEW TOOLS TO HELP THEM ... YOU'LL HAVE EMPLOYEES WHO CAN HANDLE MORE. **THAT WILL MAKE YOUR COMPANY MORE APPEALING TO CUSTOMERS LOOKING TO HIRE YOU.**



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There are a variety of pipe assessment tools available today that make it a more nuanced endeavor than it once used to be. Here's a quick-reference guide that covers the basics, everything from smoke testing to sonar and laser profiling.

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## JOB SITE SAVVY

### Managing Risk As a Subcontractor

If you're working for a general contractor on a project, it's important to be diligent to ensure your business is protected from things like unknown contract requirements or adjustments to the project schedule. This online exclusive explains more.

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## JUST FRIENDS

### Can Personal Relationships Survive Business Partnerships?

You've probably heard some horror stories of great businesses utterly collapsing because the founders were good friends and the relationship turned sour. Things can get complicated when difficult, impersonal decisions need to be made in the company's best interests. This online exclusive takes a closer look at the complexities of this type of relationship and how you can ensure that it remains healthy.

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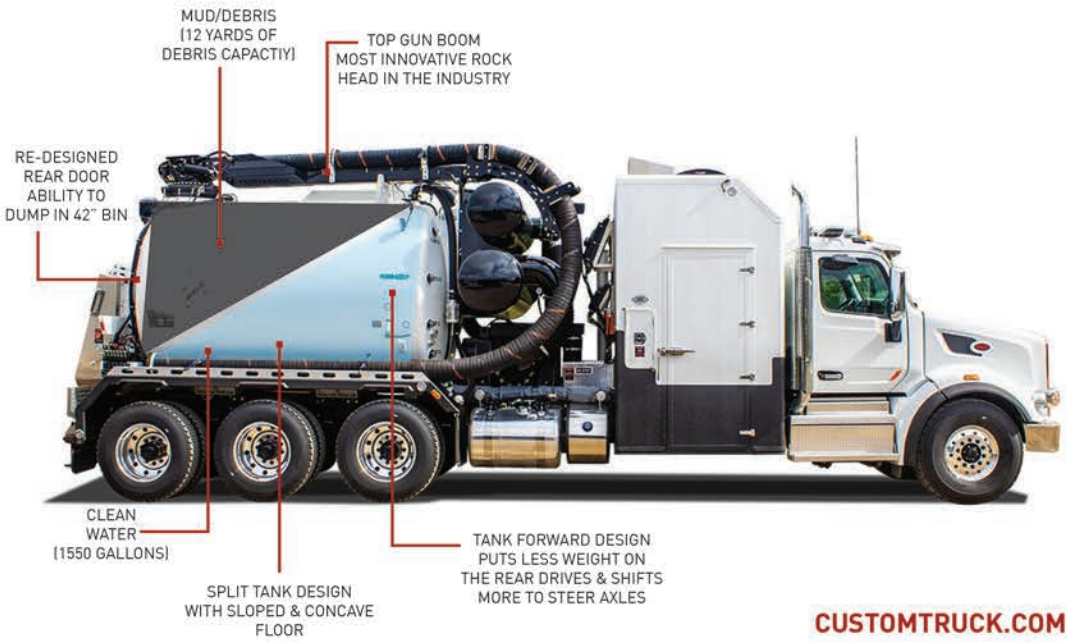
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# DIGGING WITH A TWIST

TAPPING THE POWER OF SOCIAL MEDIA AND FEARLESS EXPLORATION OF NEW TOOLS OPENS UNIQUE GROWTH OPPORTUNITIES FOR A YOUNG CALIFORNIA COAST CONSTRUCTION ENTREPRENEUR

STORY: SUZAN CHIN-TAYLOR PHOTOS: MATT DAYKA

Construction is in his blood for Michael Willhite. This social media influencer of the excavation and pushing dirt industry has built a dynamic business model and gathered some of the most innovative and cutting-edge tools in the market for his fleet, based in Santa Barbara, California.

Willhite Grading & Excavation, tapped as a beta tester by some of the world's leading manufacturers in excavation technology, has positioned itself as a thought leader and forward-thinking firm, capable of taking on some of the region's most challenging projects and making even the everyday grading projects more efficient and cost-effective.

#### AT A TENDER AGE

Willhite, president of Willhite Grading & Excavation, got his start in the construction trades, working

alongside his father in the family roofing business during holiday breaks and summer vacation from school. He also grew up with a local boy from a multigenerational grading and excavation firm in his teens.

Willhite looked up to this young man and his father. He had great respect for the family as a whole and eventually would receive mentoring at this company, giving him the skills, knowledge and work habits needed to launch his career in the heavy civil industry and eventually start his own firm in 2011.

Like any new startup, especially in the construction trade, Willhite faced the common challenge of acquiring necessary funding to procure the needed equipment to launch his venture. The banks were not welcoming or encouraging, but local Caterpillar dealer Quinn Caterpillar of Oxnard saw the potential and gave Willhite a small credit line to get him started, and the

rest is history. Quinn Caterpillar took a chance on this go-getter construction worker who wanted to be his own boss and it paid dividends.

“They were the first and only company that would really give me a chance, and because of their treatment, I’ve never felt the need to go anywhere else,” Willhite says. “We can always find top-notch solutions and the support we need, so we try to be a 100% Quinn Caterpillar company.”

The fleet now consists of wide array of Caterpillar equipment, including but not limited to a 315F hydraulic excavator a 308E2 hydraulic excavator with a Trimble earthworks platform and engcon tiltrotator, multiple compact track loaders and numerous attachments, support vehicles and related tools, with more being added as the market demands.

Willhite’s approach is to never force the wrong equipment on a job, instead working closely with its clients to determine the best machinery and processes for the environment.

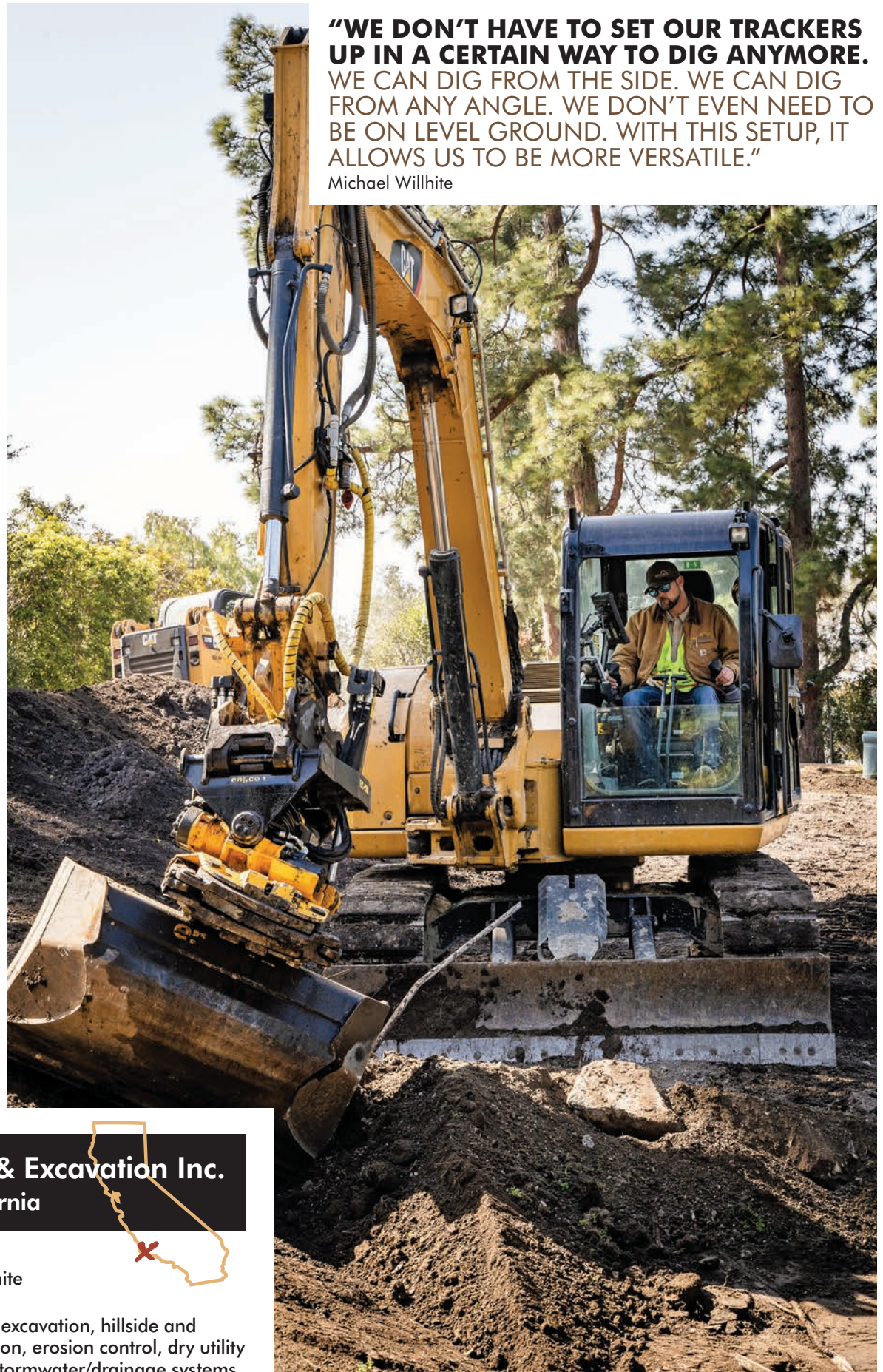
#### ACCIDENTAL SOCIAL MEDIA INFLUENCER

Access to the right information that would help determine how to build the right equipment fleet and build the specialized knowledge for his new business to succeed was not readily available through traditional methods. Being on his own meant he no longer had easy real-world access to those who could mentor him. What could he do?

Willhite turned to what some might consider an unlikely source — social media. Instagram and Facebook held a lot of valuable information and real-world experiences from his peers, and Willhite discovered he could use this to hone his craft. He began to engage and create online

**“WE DON’T HAVE TO SET OUR TRACKERS UP IN A CERTAIN WAY TO DIG ANYMORE. WE CAN DIG FROM THE SIDE. WE CAN DIG FROM ANY ANGLE. WE DON’T EVEN NEED TO BE ON LEVEL GROUND. WITH THIS SETUP, IT ALLOWS US TO BE MORE VERSATILE.”**

Michael Willhite



## Willhite Grading & Excavation Inc. Santa Barbara, California

- FOUNDED:** 2011
- OWNER:** Michael Willhite
- EMPLOYEES:** 14
- SERVICES:** Grading and excavation, hillside and soil stabilization, erosion control, dry utility installation, stormwater/drainage systems
- SERVICE AREA:** Central California coast
- WEBSITE:** [www.willhitegrading.com](http://www.willhitegrading.com)

Michael Willhite, president of Willhite Grading & Excavation, cuts terraces into a hillside using a CAT 308E2 fitted with an engcon EC209 tiltrotator.

## Extending for brand visibility

As the president of Willhite Grading & Excavation, Michael Willhite understands the importance of brand awareness and that extending it into other areas of your life can bring a positive impact to the bottom line.

In addition to his popularity on Instagram, Facebook and LinkedIn for his Santa Barbara, California-based construction business, Willhite is heavily tied to the motocross freestyle world and actively networks that circle of influence. Networking doesn't always stay within the confines of handing out business cards, shaking hands and asking for referrals.

A good example of this was a chance opportunity to work with X Games gold medalist Jarryd McNeil on the production of a video for a competitive entry for Real Moto for the X Games, which was released in autumn 2019. Hearing about the video contest, Willhite extended an invitation to McNeil to shoot his video at a location Willhite had access to and provide his excavation equipment for use.

"Sometimes you just got to put yourself out there and be willing to do things for the love of it, regardless of money, extend yourself beyond the normal boundaries," Willhite says. "The rewards are limitless, whatever it costs, it always comes back somehow."

Willhite shares of his experience with the video shoot. As a result of his participation in the project, the connections made and new heightened visibility of his brand have been outstanding. It also yielded stronger results over traditional advertising previously used for building business and brand awareness for his firm.

"Be open to take the risk of investing some of your time, resources and being connected in unique places. People do notice, and they will remember your name," he says.

friendships on various social media platforms with other construction pros his age who were either employed at larger firms or like him: out on their own. When an issue arose, he would take it to his connections and wasn't shy about asking for advice and, in turn, sharing advice. What happened next was totally unexpected.

"These conversations on Instagram started creating a following for me that's now over 30,000 on Instagram along with another platform that has over 30,000 followers as well," Willhite says. "It's all related to the grading industry, and we follow the latest tech and talk about the things we're working on. It's created a wide-open platform where we can get honest answers from those who are doing what we do every day."

Becoming a social media influencer in the excavation market segment caught the attention of equipment manufacturers who approached Willhite about beta-testing products and reviewing them on his social media feeds.

This gave him a unique opportunity to incorporate cutting-edge technologies into his business while helping the manufacturers at the beginning stages of their product development to debug production models. This was done with the understanding that Willhite would always maintain his integrity through the reviewing process and make honest posts on social media, being able to say what he wished, good or not, about the product.

One such testing opportunity led Willhite to start running one of the first engcon tiltrotator systems in the U.S. It was love at first dig for him and his crew. "We don't have to set our trackers up in a certain way to dig anymore," Willhite says. "We can dig from the side. We can dig from any angle. We don't even need to be on level ground. With this setup, it allows us to be more versatile."

When working in tandem with the Trimble earthworks control platform, Willhite's excavators and specialty tools, like the tiltrotator, extend the crew's capabilities and efficiency. The control platform essentially makes the control stick the boom of the excavator. It combines what would be done with a stick and rod, for example, to take elevations for the depth of a trench line and makes the excavator capable of performing this to eliminate the setup of an extra component.

The Trimble earthworks interface is all visually driven and intuitive, making learning to use it fairly simple and straightforward for the operator.

With these tools, the process is streamlined and the crew gets its benchmark off the hub set by the surveyor for the site. They set up a laser and bench out at that hub and catch the laser beam, track it to wherever desired with a straight eye shot and then catch that laser again. The system will calculate how much elevation change has been made from the tracking of one spot to the other, pinpointing exactly where the operator is in relation to that hub. This is especially helpful with trench lines, drainage systems and even more so with cutting slopes.

Michael Willhite surveys the work performed on a line his company excavated on a commercial job site in Santa Barbara, California.



## A SOLID BASE

Even with all of this great technology, Willhite understands the value of having a solid core base knowledge of what they do, the old-school way. He teaches his crew members to perform their tasks with string lines and eye levels.

“If you know how to use the basics, then you can transfer that knowledge into any of the technologies we have,” Willhite says. “It all works off the same concept, which is a flat level plane. It doesn’t matter if it’s a string line or a laser line: Once you have that understanding, it will work no matter the method.”

One advantage Willhite has over other excavating or grading contractors is his background and experience in the IBEW (International Brotherhood of Electrical Workers) in various roles on projects for underground utilities, oil fields, pipelines, flanging steel lines and the like.

“We aren’t pigeon-holed here as being just grading contractors,” Willhite says. “This experience means we can take on a wide array of commercial projects that include dry utility installation, conduits, drainage systems, detention and retention systems, as well as road building up to the point of asphalt — that we don’t provide.”

With such a solid base of experience and knowledge, taking on high-risk or challenging projects others may shy away from puts Willhite in a position to participate in projects that stretch his talents and equipment, something he thoroughly enjoys. One such project was a hillside restabilization in a Santa Barbara apartment complex that provided an interesting opportunity to grow his skills and put his new tiltrotator tool to the test.

When the units were constructed in the 1980s, several of the complex’s two-story buildings were situated very close to a hillside that had been cut away to allow for the construction, but choice of material and position of the buildings were now creating severe issues. A retaining wall had been constructed against the original slope and the buildings placed just 3 to 4 feet from it. Behind the wall, the soil consisted primarily of alluvium, a highly silty material. During rain events, water, naturally taking the easiest route out, would push through this 600-foot-long by 50-foot-high by 3-foot-deep material that made up the slope behind the wall and would create slip planes in sections of the slope material.

This slow sliding and loss of the slope’s material into the rear sections of the building was addressed for 20 years using various “Band-Aid” measures, and after 20 years of repeated slides, the buildings were red-tagged to preclude occupants from getting injured in the event of a catastrophic slide of the 13,000 yards, 20,000 metric tons of material on the slope.

The complex owners preferred not to remove the existing walls, which is not something that Willhite advocated. “We don’t believe in walls being used to retain any material,” he says. “Walls should be used to basically establish grade breaks. When we are tasked with redoing a slope, we build that slope so it can be freestanding without any wall.”

Juan Talavera operates a CAT 239D, shuttling dirt while Willhite excavates at a residence job site in Montecito, California.



Willhite sets up the Trimble Earthworks grade control system used to enhance productivity.



For this hillside restabilization, all mini equipment was utilized due to the compact footprint of the work area and access points. The first step was to ramp up over the existing wall, get under the slope and create the first bench. This was approximately at the top of the wall. It was cut out about 10 feet wide the full length of the slope and was completed in 200-foot sections on the ini-

**“THE OPPORTUNITIES AND EARNING POTENTIAL ARE STRONG IN THE CONSTRUCTION FIELDS. WORKING IN THE TRADES SHOULD BE GIVEN SERIOUS CONSIDERATION IF SOMEONE IS LOOKING FOR A POSITION WITH UPWARD FINANCIAL MOBILITY AND THE CHANCE TO BE CHALLENGED AND PART OF CREATING SOMETHING THAT WILL IMPACT LIVES FOR GENERATIONS TO COME.”**

Michael Willhite

tial pass. The material that was cut out was moved to an area where it could be cleaned, mixed and made uniform in consistency.

The next step involved digging down into the earth to reach competent solid material to create keyways behind the wall. The entire hillside would now be built upon these keyways that would be back-sloped in tiers. In addition to proper compaction, on the backside of each of the keyways, a French drain drainage system was installed, and that was surrounded by rock. This was placed at every 10 to 15 feet in elevation rise. By installing these drains, underground flow would be naturally directed through the rock, into the pipes and then diverted to the face of the slope in a controlled manner.

The project environment was difficult and demanding, but Willhite’s compact equipment made what seemed impossible, possible.

“It was tedious and dangerous working on the slopes,” Willhite says. “With the tiltrotator, we were safely able to slope at extreme angles within very tight spaces. Sometimes we were working on benches no wider than 6 inches beyond the width of the tractor so having that safe maneuverability was crucial.”

The project also involved connecting the original natural, stable slope to the newly created one. This required the incorporation of geogrid fabric, which was laid in at every 24 inches in vertical height point to ensure there will not be future movement on the hillside. The entire hillside stabilization took approximately nine months to complete, and the apartment buildings affected have regained occupancy status.

### CHALLENGES OF A DIFFERENT NATURE

Projects that test the team to be innovative are the easy ones for Willhite. Business financial-related issues, common to all service businesses, are a bit more difficult to work through sometimes and he takes it as part of the nature of the work. However, Willhite feels there are some things the industry, as a whole, needs to talk about more openly to create positive change for how contractors are viewed professionally and treated in the course of business transactions.

“Contractors, all of us, we’re out here gambling: We put it all on the line each time we sign a contract,” Willhite says. “We’re a risky business that banks aren’t friendly toward until we really don’t need the funding. Receivables, cash flow, and being paid in a timely manner so you can meet your obligations and take care of your crew and family — money, it’s an uncomfortable subject, and it’s the 800-pound gorilla in the room that needs to be dealt with.”

While waiting for the business financial climate to change, Willhite has found that a few technology tools have been a tremendous help in reducing some of the stress that comes with administering and managing the business side of contracting.

One of his and his crew’s favorites is busybusy, a tracking system for job site management that is easily installed and used on all the team member’s smartphones. Using geofence triggers, the busybusy app sends out important alerts and notices to team members so they can work more effectively together and it also provides important coding facilities so line-item billing, cost tracking and profitability analysis are accurate and easy to understand.



The engcon EC209 tiltrotator provides Willhite and his crew with new capabilities including digging from any angle on unlevel ground.

### WHAT'S AHEAD

Willhite plans to reinvest and expand his service coverage area to cover the California coastline from Malibu to Morro Bay and inland to Paso Robles with offices in San Luis Obispo and Santa Barbara counties. He dreams that someday it can be a multigenerational family business, as Willhite has been grooming his young son since the age of 3 (he’s now 5), training him to operate his own bucket machine alongside dad in the mini-excavator cab. For him, the sense of family is what has always been at the core of the most successful businesses he has worked in, and this is true for his business model as well.

“I’m grooming him to be a powerhouse in this industry, if he chooses to go down this path,” Willhite says. “I’m hoping he will carry on my legacy, but if he doesn’t, that’s OK too because what I will have done for him is instilled base knowledge of how to do something, skills that he can fall back on for the rest of his life that no one can take away from him.”

Willhite also wants to help encourage young people to enter the trades, to let go of the notion that college and corporate worlds are the only options for a good life.

“The opportunities and earning potential are strong in the construction fields,” Willhite says. “Working in the trades should be given serious consideration if someone is looking for a position with upward financial mobility and the chance to be challenged and part of creating something that will impact lives for generations to come.” ▼

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# Versatility to Make the Work Flow

## CUSTOMIZED EXCAVATORS HELP CONTRACTOR TAKE CARE OF PROJECTS ON THE WATER THROUGHOUT NORTH AMERICA

BY CAROLINE SCHWEITZER

**W**hen you think “excavator,” images of digging dirt and rock on land may come to mind. However, that’s not the case for J.F. Brennan Co., a 100-year-old marine construction contractor out of La Crosse, Wisconsin.

“We get the Hitachis working out on the water,” says Sam Crawford, project manager for Brennan.

With specialties in environmental dredging, wetland remediation, habitat restoration and more, operating heavy equipment out on the water is definitely not uncharted territory for the firm.

“Brennan has been a leader in inland water environmental cleanups for many years now,” Crawford says. As for his interest in the work, he says, “I’ve always had an interest in environmental remediation, specifically on waterways.”

For a recent river remediation project in northern New York, Brennan purchased three new ZX470LC-6 Hitachi excavators. Their maiden voyage consisted of working from barges, dredging and backfilling sediments on an over 7-mile stretch of river. And in the mere 1,200 hours that the excavators have been operating, they haven’t seen any downtime. That’s important for cleanup projects where time is of the essence.

“Having a machine that has very little downtime is crucial for us,” Crawford says. “Our machines are worked very hard, and quick cycle times are an important factor for us. This enables us to maximize our efficiency when removing contaminated sediment or when restoring the river bottom with clean material.”

### VERSATILITY AND EFFICIENCY

With the majority of Brennan’s work happening on the water, the machines required some unique fabrications to make each excavator as efficient as possible. The company worked with Pierce Pacific Mfg. to modify the machines and with Hitachi dealer Nortrax on the order.

“Each machine is equipped with aftermarket long-reach fronts and

A ZX470LC-6 Hitachi excavator operated by J.F. Brennan Co. of La Crosse, Wisconsin, sits on a barge as it removes sediment during a job in northern New York. The company has three of these units.



Sam Crawford, project manager for J.F. Brennan Co.

**PROJECT:** Environmental dredging, wetland remediation and habitat restoration throughout North America

**CONTRACTOR:** J.F. Brennan Company, Inc. (La Crosse, Wisconsin)

**EQUIPMENT:** Various Hitachi excavators Hitachi; Moline, Illinois 866-973-0394, [www.hitachiconstruction.com](http://www.hitachiconstruction.com)

**RESULTS:** Success in remediating several projects, as well as other work such as ice breakups using long-reach excavators

**DOWN & DIRTY**

additional counterweight,” says Paul Berendes, Brennan’s director of asset management. “The long-reach fronts and added counterweights give us the ability to handle 2.5-yard custom environmental buckets at a maximum reach of 60 feet and a dig depth in excess of 40 feet.”

The long arm reach is also efficient from a cost perspective.

“Moving the barge, or marine plant, is a time-consuming and costly process,” Berendes says. “The more reach a machine has, the more work can be performed in a single area before having to relocate the entire marine plant.”

In addition to the long arms and counterweights, Brennan added a small deck outside the cab of the machines that allows for simple collaboration and training.

“It’s essentially a platform next to the operator’s cab that allows management personnel to talk with the operator, give them instruction based on results of GPS surveys, or even train a new operator,” Crawford says.

Brennan’s river remediation project also called for some custom attachments — from clamshell buckets to custom hydraulic dredge buckets.

“Our custom dredge bucket has what we call an environmental lid,” Crawford says. “It’s a 60-inch-wide solid steel plate that hydraulically closes over the bucket and secures the sediment within it. This minimizes the resuspension of the material as you bring it out of the water.”

The unique river remediation application requires modifications that increase the machine’s versatility. But, retaining ease of transportation along with these modifications was paramount.

“The versatility is huge for us,” Crawford says. “Having a machine we can transport quickly and get on a barge where it’s capable of doing many different tasks is critical. The Hitachis have lived up to that goal, with the ability to seamlessly transition from removing material with the dredge bucket to placing material with the clamshell bucket.”

## FIVE-MAN BARGE CREW

At each barge or marine plant, Brennan uses a five-man crew that assists in the excavation and moving of material. Depending on the job site, there can be several of these barges operating at once.

The crews consist of an operator, who runs the excavator and directs the crew; a spud operator, who raises and lowers anchoring spuds to move the barge back and forth to progress through an area; and a utility support person, who assists with changing and securing barges, maintaining the turbidity curtain to minimize the turbidity in the river.

There is also the tugboat operator, who transports material back and forth from the loading plant to the barge to be placed in the waterway and moves the plant from one area to the next, and finally the deckhand, who assists with guidance for loading and securing barges and monitors surrounding river traffic while the barge is in tow.

## THE IMPORTANCE OF RELIABILITY

With each modification made to the machines, they become more specialized. They also become irreplaceable.

“For a typical earth-moving contractor, if its machine goes down, the contractor can just pull one from a rental lot. Our machines are specifically tailored to marine applications, and it’s very difficult to find something of this size and with these capabilities on a rental lot,” Crawford says. “Having these reliable machines with such little maintenance has been very beneficial for us.”

Not only are the machines modified to work even more efficiently, but they’re also tweaked to be environmentally cautious as they work on sensitive cleanup job sites. Every action they take is considered from an environmental perspective, right down to the machine’s hydraulic fluid.

“All of our water-based equipment is flushed of the standard hydraulic fluid and replaced with an eco-safe hydraulic fluid,” Crawford says. “That way, in the off chance there is a spill, it’s environmentally friendly and easy to clean up.”



The long reach of the boom allows for the barge to stay in one area, making it more cost efficient, rather than constantly moving it.



The buckets of the excavator have an environmental lid, which is a 60-inch-wide steel plate that hydraulically closes over the bucket and secures the sediment within it.

**“HAVING A MACHINE THAT HAS VERY LITTLE DOWNTIME IS CRUCIAL FOR US. OUR MACHINES ARE WORKED VERY HARD, AND QUICK CYCLE TIMES ARE AN IMPORTANT FACTOR FOR US.”**

Sam Crawford

As an all-season contractor, Brennan’s machines must be prepared to work in tough environments, especially during winter months on a waterway.

“Some jobs might require the machines to break ice for operations that are running all winter long,” Crawford says. “The ability for a machine to handle the wear and tear of cold weather and harsh conditions is crucial for us.”

## HARD WORK AND PRIDE

It’s easy to tell that Brennan’s employees have pride for the work they do. Not only do they feel like they’re making a positive impact, but they work hard and embrace the constantly changing work conditions.

“With many of our projects, we’re dealing with different scenarios and facing challenges together,” Crawford says. “You have to be willing to work long hours in harsh conditions. But you’ve got to have a good attitude and work as a team.”

The culture at Brennan revolves around safety, efficiency and innovation. “It’s a great company to work for,” Crawford says. “And I think there’s definitely pride in what we do.”

With many multiyear projects, Brennan crews bond as they work for months in various locations across the country. Crawford says a lot of the Brennan crew members have commonalities, like a love of working outdoors. But he admits it takes a special type of person to work in the industry year after year.

“They say people in this industry are always a little bit crazy,” Crawford says. “But who knows?” ▼

# Getting Technical

## TIPS TO GETTING YOUR CONSTRUCTION BUSINESS IN THE TECHNOLOGY WORLD USING AI SYSTEMS

BY SANDRA MASON

Let's clear up two things about artificial intelligence at the start. First, it's a broad concept, not a specific product, in the same way hydraulics is a broad concept, not a specific product. Yes, both AI and hydraulics are fundamental to countless specific products, but neither is in and of itself a product.

Second, you're already using AI on a regular basis. You travel and pull out your smartphone to find the best place to get a burger in an unfamiliar city. A few taps and you have restaurant ratings, reviews, locations, menus, business hours, phone numbers and directions. That's AI and, as it happens, quite complex AI. The same is true with Amazon and other online shopping services and all social media.

### BETTER BUSINESS OUTCOMES WITH AI

Now that we've cleared up those matters, the question is: "How do I apply AI to my business?" Just as you wouldn't travel without your smartphone, you shouldn't run your business without AI. And the objective?

"What we really want to talk about are outcomes, and specifically, better outcomes," says Ellis Talton, head of growth with briq, a firm specializing in AI for the construction industry.

Talton says while "artificial intelligence" is the accepted standard term, AI can also be thought of as "augmented intelligence" or "applied intelligence," either of which is closer to describing how AI works in the business world.

Because of the flexibility of application of AI, those better outcomes can include improved project management scheduling, reduced downtime, fewer lost-time injuries, selection of higher-profit jobs and any other aspect of business that has data associated with it, which is essentially every aspect of business.

**"AT ITS HEART, AI IS STATISTICS. IT HAPPENS TO BE GOOD AT USING LARGE NUMBERS OF STATISTICS, LARGE VOLUMES OF DATA, WHICH YIELDS HIGH ACCURACY, WHICH IS THE FOUNDATION OF ITS VALUE."**

Ellis Talton

"At its heart, AI is statistics," Talton says. "It happens to be good at using large numbers of statistics, large volumes of data, which yields high accuracy, which is the foundation of its value."

### AI FOR THE CONSTRUCTION INDUSTRY

Since AI is driven by numbers, can contractors simply use Excel spreadsheets to create their own AI?

"Not really," Talton says. "While general contractors have much more data than they think they do, AI requires complex management of data using

sophisticated algorithms. Contractors should be subbing out their AI."

Firms specializing in AI services are better at understanding and applying AI; they know maximizing the value of AI involves more than just harvesting numbers. And there are a lot of numbers to harvest. While you likely have an abundance of your own numbers to work with, the deepest pools of data lie outside your firm.

"There's a lot of information in the public space," Talton says. Trade and industry groups are excellent resources; AEM has a stunning wealth of information available to its members. And don't forget other contractors. "Your peers are part of that public space."

Here are three tips to get you started in using AI to derive better outcomes in your business:

- 1. Focus on those outcomes.** Don't get caught up in buzzwords. You don't need to know the metallurgy of chrome vanadium to understand how to use a good wrench. Likewise, you don't need the background of AI to use it well.
- 2. Consider a service.** You may want to start with AI as an in-house effort, but to get the real benefit, you'll want to employ a service. "Subbing out AI delivers value in half the time at half the cost," Talton says.



Ellis Talton is head of growth with briq, which specializes in AI for the construction industry.

- 3. Pick the right service.** Until you start shopping for AI services, you may not realize how

many are out there. Filter for those who speak the language of construction. Just as you wouldn't bring your backhoe to an RV dealer for service, neither should you bring your AI needs to someone in the wrong market within that industry.

"AI is not some scary monster in the sky," Talton says. "It is an accessible, affordable and effective way to use the massive amounts of data now available in order to do business better. And if you currently have a well-run company, realize that even small improvements can pay big dividends over time." ▼

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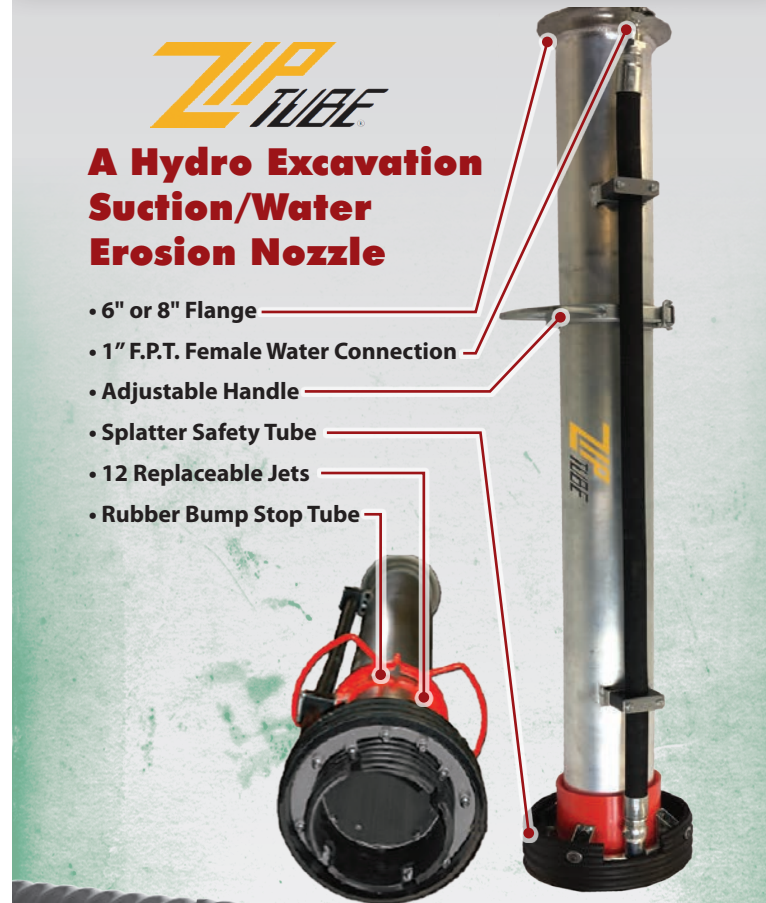
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# Dig Out of Danger

## IT'S ALWAYS HELPFUL TO REVISIT THE FUNDAMENTALS THAT MAKE UP A SOLID SAFETY APPROACH

BY CHRIS GALLOWAY

**S**afety and quality are two of the most inseparable components to success on a job site. You can't have one without the other.

And without a solid foundation of safe practices, you'll suffer from more than a deficit of quality. Safety isn't just a quota — it's the thing that keeps workers safe, happy and productive.

You should have a profound understanding of the tenets of excellent safety. It should be a pillar of your company's identity. Most of all, you should know that there are always ways to improve upon what you already have. But without the fundamentals, you'll struggle to maintain consistent quality and high productivity.

### SAFETY FROM OSHA'S PERSPECTIVE

OSHA has already done the hard work to collect, organize and explain the various components to keeping a safe excavation site. For free on its website, OSHA even has a Trenching and Excavation Safety manual for anyone to download. In this manual, OSHA goes over the fundamentals of excavation and trench safety, such as understanding the various classifications of soil:

**Stable Rock** — Natural solid mineral matter that can be excavated with vertical sides and remain intact while exposed.

**Type A** — Cohesive soils with an unconfined compressive strength of 1.5 tons per square foot (tsf) (144 kPa) or greater. Examples include clay, silty clay, sandy clay and clay loam. Certain conditions preclude soil from being classified as Type A. For example, no soil is Type A if it is fissured or has been previously disturbed.

**Type B** — Includes cohesive soil with an unconfined compressive strength greater than 0.5 tsf (48 kPa) but less than 1.5 tsf (144 kPa) and granular cohesionless soils (such as angular gravel, similar to crushed rock, silt, silt loam, sandy loam and, in some cases, silty clay loam and sandy clay loam).

**Type C** — Cohesive soil with an unconfined compressive strength of 0.5 tsf (48 kPa) or less, granular soils (including gravel, sand and loamy sand), submerged soil or soil from which water is freely seeping, submerged rock that is not stable, or material in a sloped, layered system where the layers dip into the excavation or with a slope of four horizontal to one vertical (4H:1V) or steeper.

### SITE SAFETY CHECKLIST

For any excavation job, it's best to create a safety checklist to be completed by a "competent person."

As defined by OSHA: A competent person is an individual, designated by the employer, who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous or dangerous to workers, and who is authorized to take prompt corrective measures to eliminate them.

OSHA also lists the types of tasks that a competent person should be performing on a job site:

- Classifying soil
- Inspecting protective systems
- Designing structural ramps

- Monitoring water removal equipment
- Conducting site inspections

It's best to create a custom checklist based on your specific requirements and even tailor individual checklists to your various job sites.

### USE PROPER PPE

PPE — personal protective equipment — is a term used for any protective equipment worn by a person for hazard protection. PPE can include helmets, goggles, clothing, gloves and anything else that is worn to keep you safe at your prospective site.

OSHA outlines the "general PPE" required for most excavation, but the more protected your crew is, the safer and more productive you'll be. OSHA's trenching and excavation worksheet outlines the following PPE:

- Hard hat for overhead impact or electrical hazards
- Eye protection with side shields
- Gloves chosen for expected job hazards (e.g., heavy-duty leather work gloves for handling debris with sharp edges and/or chemical protective gloves appropriate for chemicals potentially contacted)
- ANSI-approved protective footwear
- Respiratory protection as necessary — N, R or P95, filtering facepieces may be used for nuisance dusts (e.g., dried mud, dirt and silt) and mold (except mold remediation); filters with a charcoal layer may be used for odors

Two popular sources for hardy, cost-effective PPE are [www.uline.com](http://www.uline.com) and [www.grainger.com](http://www.grainger.com).

### CHOOSE THE SAFEST TOOLS

Not every power tool is created equal. There are easy ways to increase your safety by being more mindful of the tools your crew uses.

For example, one easy way to reduce air compressor noise and the various other hazards that come with a compressor is to switch to a more portable gas-powered jackhammer. They're more efficient than the standard pneumatic variety of jackhammer and produce less noise, dust and vibration. With less equipment needed and less to haul to and from a site, making use of power tools with more portability will have a positive effect on the overall site safety.

### SAFETY IS MULTIFACETED

The idea of "safety" is largely intangible. It's a multifaceted effort that should constantly evolve on both the micro and macro levels.

As your business matures, so too should its understanding of safety. Day-to-day safety on a job site should evolve as well to accommodate the changing landscape, the different weather and the stage of construction. If you follow these basic tenets, you'll be well on your way to a safer job site.

### ABOUT THE AUTHOR

*Chris Galloway is the owner of US Hammer Jackhammers and Post Drivers. A lifelong contractor, he runs US Hammer and Pioneer Machinery, his rental equipment company, from Woodland, California. ▼*



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# Going to the Next Level

## NARROWING YOUR FOCUS AND LEARNING TO DELEGATE ARE KEY TO BUILDING A SUCCESSFUL BUSINESS

BY BRIGHAM DICKINSON

**L**ife as a business owner can be tough and lonely. It's easy to lose track of your goals and squander potential, whether you've been in business for two years or 20.

Running a business requires a constant, singular commitment to your vision, your employees and your best self. If you aren't prepared, you might miss opportunities to enhance your relationships and accomplishments.

Since starting my company, I've noticed three human tendencies that can get in the way of any business, no matter what size. They can lead to business owners getting stuck and complacent, failing to move forward and eventually falling behind. But there are ways to avoid getting trapped in them. Business owners need to know what to look out for and need a plan to cognitively deal with human tendencies before they manifest in your behavior.

To be successful, it is so important to not only know your limits and boundaries, but also where you're strongest. Nobody can do everything, but some people can do a few things well enough to turn them into value for others. What we should strive to do is identify our key strengths — those things we do better than anyone else — and push out all the rest. For business owners, this means focusing on just one part of the business and delegating the rest to your employees. If you're an owner and your strengths lie in being in the field, then it might be a better option to appoint someone who's really good at leadership to run your company than to do it yourself.

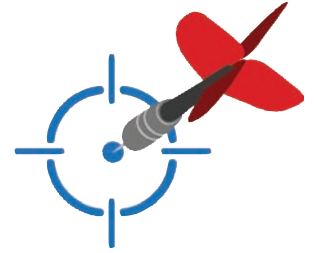
Compensation based on performance is not just for salesmen or athletes anymore, it's for everyone. Your performance in the role you play is more important than the role itself. You might feel like being the owner or the leader is the most important job. However, what's a leader without people willing to follow them? Your job does not matter as much as how good you are at doing your job. Whatever work you decide to do, work hard to be the best and you'll find that you'll get paid the most.

### LEARN TO DELEGATE

As business owners, we need to know our own strengths and the strengths of those people with whom we surround ourselves. If you're assigning tasks to people who just aren't very good at those tasks, they won't get done as well as they should and you are wasting time and resources. But if you delegate according to your employees' strengths, you can start to deliver real value to your customers and stakeholders and really start growing your company as a result.

### NARROW YOUR FOCUS

The thing you might want to ask is, "How can I, as a business owner, only focus on my strengths? Won't things get missed or left out?" And the answer is: trust. Trust in yourself and those you have delegated to. Develop a personal mission statement, and keep it front and center in your mind at all times. You need something that drives you and your team on a fundamental level, that keeps you all on track. Ultimately, you need to put your whole self into your business, into those strengths, relentlessly until you become the best at whatever it is that you're doing. In order to do that, you need employees who can and will do the same with their responsibilities, so you can delegate effectively.



Every morning, when I get up, I make a point to recite a personal mission statement. I even have it written on my mirror. After that, I take some time to read and reflect on the things I'm grateful for, and that helps me stay focused on what my goals are and how to get there throughout the day.

If you're unsure of what to focus on, figure out what your one, singular purpose is. Find a problem in your life, and work to solve it as quickly as possible. Home in on that one thing you want to achieve, chase after it, push aside distraction and do whatever it takes to reach that goal. You'll gain confidence in yourself, and future goals will be that much easier to achieve.

### AVOID DISTRACTION

There's so much that can distract us. Every day, we wake up and we're just bombarded by distraction: the news, politics, even the weather. When I was working for a previous employer, one of my distractions was a competitor of ours who kept copying my ads. Every week, I would look at their ads and they were exactly the same as mine — except for one really good ad that featured the charred husk of a building. Our competitor's building had burnt down, and he was trying to sell the equipment he had bought just before the busy season to continue running his business.

It was a really good ad, and I got so focused on it that I let it distract me. I went to my boss' office, told him we needed to burn our building down, and he looked at me like I was crazy. He leaned over his desk and told me something important: He didn't care what our competitors were doing. He wanted me to focus on what I

was doing, what our company was doing, because my job was to generate leads. He helped me to stay focused on what I could control — my own advertising, not trying to copy our competition — and we ended up putting together some of the best ads we ever ran.

### TAKE IT TO THE NEXT LEVEL

The lesson in this is to focus on what you can control. Don't let other things distract you. Focus on your singular purpose, and help your employees do the same. Take some time every morning to really home in on what you want out of life and author your own destiny. Take some time away from social media, shove those distractions out of your mind and workplace, and focus on the task at hand.

In order to take your business to the next level, start with your focus. Your focus determines how you think, and how you think is what drives your emotions and actions. In order to have the right actions, which will build a stronger and more effective business, the first thing you need to do is change your focus by ignoring distractions. Keep what's most important front and center in your mind, and you'll find there's nowhere to go but up.

### ABOUT THE AUTHOR

*After incorporating these principles into his own life, Power Selling Pros president Brigham Dickinson wrote Patterned After Excellence to share his experiences and lessons with other business owners. ▼*



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BY CRAIG MANDLI

## Dozer

### John Deere 850L dozer

The 850L dozer from John Deere incorporates an EPA Final Tier 4 PSS 9.0-liter 225 hp diesel engine. Standard auto-idle and idle shutdown help to minimize fuel costs. It is equipped with an Eco mode feature, reducing fuel consumption by up to 20% without sacrificing performance. It has a dual-path hydrostatic transmission and an eight-roller design with 130 inches of track on the ground, increasing productivity, stability and gradeability. It comes standard with grade control-ready electrohydraulic valves and can be equipped with SmartGrade. The roomier, quieter cab includes comfort-driven features such as an improved HVAC system and optional heated and ventilated seat. Ergonomic joysticks control the transmission and hydraulic functions.

800-503-3373; [www.johndeere.com](http://www.johndeere.com)



## Excavators/Excavating Equipment

### Case Construction Equipment CX350D LR

Case Construction Equipment's full-size CX350D LR (long-reach) excavator provides increased operating performance in applications that require long-distance bucket



reach and precision. The new model features an elongated boom and arm and additional counterweight for increased digging capabilities in deep or long-distance digging applications while providing the same improved responsiveness and control of the D Series. With an operating weight of 88,200 pounds, the CX350D LR features a 268 hp Tier 4 Final diesel engine and up to 24,500 ft-lb of bucket digging force. The extended arm and boom provide a maximum dig radius of 61 feet 3 inches and a maximum dig depth of 46 feet 3 inches.

866-542-2736; [www.casece.com](http://www.casece.com)

### Hyundai Construction Equipment Americas R35Z-9A

The 3.5-ton class R35Z-9A zero-tail-swing compact excavator from Hyundai Construction Equipment Americas includes a Werk-Braun-compatible thumb bracket, a diverter valve for easy switching between a thumb or attachment, proportional control levers with two-way piping, pin-grabber style dual-locking quick coupler and Q/C piping, enhanced bucket design with lifting-eye and two-piece tooth design for easy replacement, an increased curve profile on the dozer blade for better grade and cutting ability, an easily replaceable cutting edge for the dozer blade, a wider-opening engine compartment and a durable LED work light on the boom for improved job site illumination. An optional feature is a four-way angle dozer blade. It has a boom swing function that can swing 75 degrees to the left and 50 degrees to the right for efficient work in congested areas.

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



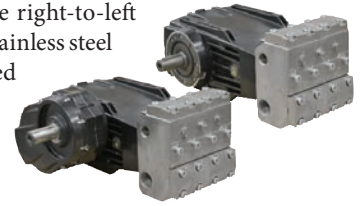
## Hydroexcavation Equipment

### Comet Industrial Pumps EF and EFR 75/88

EF and EFR 75/88 high-pressure plunger pumps from Comet Industrial Pumps (A Division of Valley Industries) easily handle up to 23 gpm, 4,060 psi and 43 hp. Flexible setup allows for multiple gearbox mounting positions, and

a symmetric crankcase allows for simple right-to-left shaft conversion. They are designed with stainless steel and aluminum alloy to provide increased durability. They come standard with heavy-duty seals that have low-pressure lubrication and a circulation chamber. They include oversized tapered roller bearings, solid ceramic plungers, stainless steel piston guides and connecting rods with thin-shell bearings. They come standard with a flange for a direct-drive mount, but they can be adapted for a hydraulic motor, a PTO connection or set up with an input pulley and clutch.

800-864-1649; [www.cometpump.com](http://www.cometpump.com)



### Ditch Witch HX30G

The HX30G vacuum excavator from Ditch Witch boasts high-profile power in a low-profile design that eases navigation in congested and height-restricted areas. It is powered by a 31 hp Vanguard gas engine for optimal suction power and water pressure. To boost efficiency on any job, it comes with a powerful 542 cfm blower, 3,000 psi water pressure and 4.2 gpm water flow. It is offered with the choice of a 500- or 800-gallon tank for a variety of job requirements. The machine is available in a variety of trailer configurations, including the VT9 trailer that, when equipped with the 500-gallon tank, does not require a CDL to transport.

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



### Dynablast Pratissoli HY-PACK KT28ASPF-P47CC

The Pratissoli HY-PACK KT28ASPF-P47CC water pump package from Dynablast offers 18.4 gpm at 2,900 psi at 1,450 rpm. It has a T13 female spline shaft input and SAE B 2/4 bolt flange mounted from the factory with either an Interpump 47 cc FOX piston hydraulic motor or a 64 cc motor. It has a spherical cast iron nickel-coated manifold, a self-lubricating design with no oiler kit or weekly oiling required, internal fins on an aluminum crankcase that provides cooling to lower the oil temperature, and two bore ceramic plungers that offer thicker ceramic on the water end to prevent from thermal shock.

905-867-4642; [www.dynablast.ca](http://www.dynablast.ca)



### Easy-Kleen Pressure Systems Wildcat Heaters

Wildcat Heaters high-pressure, oil-fired hot-water/steam heaters and hydraulic pump systems from Easy-Kleen Pressure Systems are designed for reliability and efficiency and are installation-ready for vacuum trucks and hydroexcavators. A full range of heater options includes dry steam, redundancy packages, Schedule 80 and 160 stainless steel or A53 boiler pipe, fine-tuned temperature and flow-control systems. All coils are manufactured in-house, with CRN boiler-approved coils now available. Heaters can be designed for mounting in a cabinet or supplied as a completed cabinet unit. They are CSA and ETL approved. Hydraulic pumping systems are available.

800-315-5533; [www.easykleen.com](http://www.easykleen.com)



### GapVax HV33

Designed to safely transport water and debris in urban areas, the GapVax HV33 is shorter, smaller and more compact than its predecessor. It is 30 feet long overall on a medium-duty chassis and includes a 600-gal-



lon water tank, 6-cubic-yard debris body, 6- or 8-inch top-mounted telescoping boom with a 14- to 17.5-foot reach, 4,000 cfm power and an inverted, full-opening tailgate.

888-442-7829; [www.gapvax.com](http://www.gapvax.com)

### Hi-Vac X-Vac X-13

The X-Vac X-13 hydroexcavator from Hi-Vac has a 27-inch Hg, high-capacity vacuum system; a 10 gpm at 2,500 psi triplex water pump; a top-loading, 360-degree boom; polygraphite, rust-free water tanks; a power transfer with OMSI heavy-duty transfer case design; and a noise-deadening, heat-retaining enclosure that surrounds both the water system and the vacuum system. It can carry up to 23,000 pounds, and it can transport and dump debris on site.

800-752-2400; [www.hi-vac.com](http://www.hi-vac.com)



### Hydra-Flex Machete

The Machete hydroexcavating nozzle from Hydra-Flex channels water in an oscillating motion, creating a smaller spray angle. This in turn provides a direct stream with a more forceful impact. This premium penetration will allow faster digging and more precise trenching capabilities. Its durable, replaceable cover allows for instant changeability while increasing the overall nozzle's life span. It is available in three sizes, with operating pressure ranges from 1,000 to 3,200 psi with a heat rating of 180 degrees F. Generating more power, it will last in excess of 500 hours, improving digging times and replacement costs.

952-808-3640; [www.hydralflexinc.com](http://www.hydralflexinc.com)



### Kaiser Premier CV Series

CV Series hydrovacacs from Kaiser Premier are purpose-built to handle tough applications in harsh climates. At the center of the unit is a Robuschi DV145 27-inch Hg, 6,600 cfm positive displacement blower that allows operators the power to pull long distances, reach great depths and handle heavy sludges. Optional air excavation capabilities let operators use air or water excavation depending on the demands or requirements of a specific job. They come ready to dig with a top gun boom that allows 342-degree rotation and 26 feet of reach. The boom is also capable of digging 20 feet down without clamping on extension pipes, saving valuable time in the setup, teardown and cleaning processes.

970-542-1975; [www.kaiserpremier.com](http://www.kaiserpremier.com)



### NozzTeq MONRO-JET

The MONRO-JET hydroexcavation nozzle from NozzTeq combines the power of a solid-stream pencil jet with the large coverage of a fan jet. An orbital design increases performance at a lower gallon-per-minute rate and pressures as high as 36,250 psi, allowing the operator to move faster when hydroexcavating and cleaning surfaces or sewer lines. It can be used for other types of surface cleaning such as concrete, steel, castings and large surface areas including line removal from runways. It can be modified for internal cleaning of sewers and pipes of all types.

866-620-5915; [www.nozzteq.com](http://www.nozzteq.com)



### RAMVAC Vacuum Excavators by Sewer Equipment HX-12

The HX-12 hydroexcavator from RAMVAC Vacuum Excavators by Sewer Equipment has a 12-yard debris box and a standard 4,400



cfm blower designed to match the performance of larger blower machines while delivering fuel economy. Its directional discharge system allows the off-loading of debris back into the excavation site without the mess of dumping the tank and lets operators easily blow obstructions out of the dig tube without having to shut down vacuum operations. It is a true all-weather vacuum excavator, as all major water components, including plumbing, water tanks and water pump, are housed within a temperature-controlled environmental chamber to avoid water system freezing when working in subzero temperatures. It includes a long-range wireless remote, NEMA 4 electrical system, a 900,000 Btu water boiler and a three-stage cyclonic filtration system.

877-735-4640; [www.ram-vac.com](http://www.ram-vac.com)

### Rival Hydrovac T7 Tandem

The T7 Tandem hydrovac from Rival Hydrovac was designed primarily to be loaded with debris and driven within legislated road limits with most types of debris on board. The unit comes standard with a scale that reads real-time weights both in the cab and on the wireless remote to confirm weights prior to travel. It is operator-friendly, and the operating system is engaged through one PTO switch. The remainder of the operation occurs from the rear panel or the wireless remote. The components are high performance, and the unit will dig at levels competitive to large units, according to the maker.

403-550-7997; [www.rivalhydrovac.com](http://www.rivalhydrovac.com)



### Soil Surgeon hydroexcavating tool

The Soil Surgeon hydroexcavating tool fits any sewer combination truck equipped with a telescoping 6- or 8-inch boom. The tool has a 1-inch water connection. The operator controls water pressure and power through truck controls. It has a 6-foot Tuff Tube with handles to guide the unit down for potholing or side to side for trenching. Six jets boring inward cut the soil, while six boring outward bring the tube down.

949-363-1401; [www.soilsurgeoninc.com](http://www.soilsurgeoninc.com)



### Super Products Mud Dog

The Mud Dog hydroexcavator from Super Products is designed for operator convenience and consistent performance in the harshest environments, according to the maker. It offers an air excavation option, allowing the operator to choose water or air. It is available with 12- or 16-yard debris capacity. It comes standard with safe tilt ejection unloading and is equipped with a rear-mounted boom that can reach 27 feet with a 335-degree rotation and can move in a 45-degree-upward and 25-degree-downward pivot. This allows for versatility within dig areas so units do not need to be constantly readjusted into position.

800-837-9711; [www.superproductsllc.com](http://www.superproductsllc.com)



### Tornado Global Hydrovacacs F4 ECOLITE

The F4 ECOLITE from Tornado Global Hydrovacacs has a 12-cubic-yard mud tank and holds 1,550 gallons of freshwater. The unit is more than 7,000 pounds lighter than the company's older models and offers more than double the payload. The boom has a 342-degree rotation and a 26-foot reach. The smaller F3 ECOLITE is a 10-cubic-yard, 1,250-gallon tandem-axle unit that more than doubles older payload capacities. It features an 8-inch boom and 3,800 cfm blower.

877-340-8141; [www.tornadotrucks.com](http://www.tornadotrucks.com)



(continued)

### Transway Systems Terra-Vex HV38

The Transway Systems Terra-Vex HV38 has a 12-yard debris tank with onboard scales for efficient hauling and off-loading, complete with a 26-foot-by-8-inch telescopic boom. It has a one-touch-operated hydraulic half-door with a 3,800 cfm at 27 inches Hg hydraulically driven blower. Water pressure is achieved with a hydraulically driven triplex pump, delivering 10 gpm at 3,600 psi from a 1,000-gallon HDPE baffled water tank. The water is heated with a 420,000 Btu diesel-fired burner for cold-weather operation. **800-263-4508; www.transwaysystems.com**



### TRUVAC by Westech Coyote

The TRUVAC by Westech Coyote midsize vacuum excavator delivers easier maneuverability in urban environments and boasts a rugged design for harsh environments. With a maximized payload configuration and classic style controls, the truck features a 6-inch vacuum system and high airflow capabilities to maximize performance, a 6-inch hose that reduces hose clogging frequently found on smaller vacuum systems, and a powerful vacuum system capable of up to 3,200 cfm and 16 inches Hg. The 9-cubic-yard, 45-degree-tilting debris body is positioned on the optimal spot of the chassis to ensure the payload is proportionately distributed across all axles simultaneously. It can be upgraded to a 20 gpm at 3,000 psi water pump.



**800-627-3171; www.truvac.com**

### Vac-Con X-Cavator

The X-Cavator from Vac-Con is designed to be powerful, durable, efficient and easy to operate. It features a hydrostatic drive using the chassis engine for vacuum, eliminating the need for PTO, clutch and gearbox operation. It is available with water systems up to 4,000 psi and a mobile, wireless remote-control system for chassis engine revolutions per minute, boom, automatic vacuum breaker, dump controls and hydraulic door locks from up to a half-mile away. The boom rotates 270 degrees. **904-284-4200; www.vac-con.com**



### Vacall AllExcavate

The Vacall AllExcavate hydroexcavator is suitable for excavating soil, rocks and clay around utility lines and foundations. Simultaneously, it uses high-pressure jetting action up to 24.5 gpm with up to 3,000 psi to loosen material. Then vacuum forces — up to 27 inches Hg and 5,800 cfm — suction the material and water slurry into a debris tank. The multistage vacuum filtration system has a simplified design to reduce maintenance, extend performance and increase working life. As material is deposited into the debris body, air continues to move through a dual cyclone separator where more material particles and moisture are removed. The filtered air then passes through the blower, silencer and exhaust. **800-382-8302; www.vacall.com**



## Safety Equipment

### Oxford Plastics Systems LowPro 15/10

LowPro 15/10 composite driveway trench covers from Oxford Plastics Systems can be used by utility contractors seeking a safe, easy-to-manuever covering for driveway or sidewalk trench work. The unit has a high-visibility, molded anti-slip surface, with chamfered edging that grips the asphalt. When a longer run of trench requires covering, the Infill accessory joins the covers together, creating a flat surface suitable for pedestrian traffic, and reduces the likelihood of the covers slipping apart. Designed with National Grid, the unit is suitable for up to 3.5-ton vehicles over a 35-inch-wide trench, and pedestrians over a 47-inch-wide trench. A cover weighs 93 pounds, allowing for easy transport and maneuvering with two-person lift. **800-567-9182; www.oxfordplasticsusa.com**



### ScreenO Systems Handle-Tech Hose Handles

Handle-Tech Hose Handles, distributed by ScreenO Systems, enable technicians to safely clamp onto hose or pipe and easily grip, torque and release it single-handedly through a natural movement. Through mud, cold, rain or sleet, the handles' design allows workers to safely and efficiently manipulate hoses and pipes in any climate. They work for drilling, mud suction hose, tanker hose, pneumatic truck hose, frac pipe, drill pipe, welding poly pipe and other rigid pipes. Sizes range from 1 1/2 to 6 inches, with a planned 8-inch version. Handles are manufactured with long-glass nylon that enhances the thermal insulation properties. They are strong, nonconductive and wear-resistant in temperatures from 40 degrees below zero to 150 degrees F to withstand steam blasting with de-icing equipment. **208-790-8770; www.screenosystems.com**



### Subsite Electronics 830R/T

Made to withstand the demands of rugged job sites, the Subsite Electronics 830R/T high-frequency electronic locating offers performance at a very high active frequency. It can trace poor conductors, such as ungrounded tracer wire, and locate short lengths of utility infrastructure better than low-frequency units. Automatic features such as gain control, auto depth, and visual and audio feedback make it easy for even novice operators to confidently identify and trace metallic pipe or cable and water and gas distribution lines. It offers a long battery life of 150 hours on the transmitter and 75 hours on the receiver. Adaptive filtering ensures it is highly responsive in all modes of operation, providing left-to-right guidance very quickly, regardless of mode or operator style. **800-846-2713; www.subsite.com**



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June 15-16, 2021

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**SEPTEMBER 29-30, 2020**

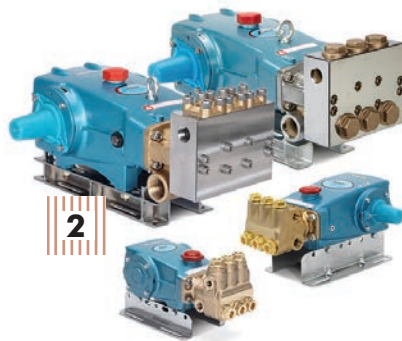
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### 1. MB Crusher MB-R700 drum cutter

Made for excavators with an operating weight ranging from 13,000 to 28,600 pounds, the MB-R700 from MB Crusher is one of the smaller drum cutters in the MB-R line, only weighing 1,323 pounds. This makes the MB-R700 suitable for job sites where maneuverability is limited or having minimal vibrations on infrastructure is a necessity. With a pickforce of 14,456 ft-lb and a speed ranging from 80 to 110 rpm, the MB-R700 is capable of grinding hard material and is perfect for channeling, rock and concrete profiling, demolition work, excavation, tunneling, restoring deteriorated surfaces and chiseling. **855-622-7874; www.mbamerica.com**

### 2. Cat Pumps hydroexcavating pumps

For over 50 years, Cat Pumps has been manufacturing long-lasting and low-maintenance triplex pumps. With dedication to zero-defect manufacturing, ease of service and availability from stock, Cat Pumps designs and builds high-pressure pumps and systems to the highest quality standards for the hydroexcavation industry. Popular models include the Model 3560 with 25 gpm, 3,000 psi or 20 gpm, 4,000 psi; Model 3570 with 30 gpm, 3,000 psi; Model 660 with 10 gpm, 3,000 psi; and Model 56 with 5.5 gpm, 3,500 psi or 8 gpm, 2,500 psi. **763-780-5440; www.catpumps.com**

### 3. Sewer Equipment Tempest industrial air mover

The RAMVAC Tempest industrial air mover from Sewer Equipment has an 18-cubic-yard debris box and a 28-inch Hg cfm positive displacement blower through an 8-inch system. The self-discharging filter system provides automatic interval cleaning of the filter house during operation, reducing downtime. The articulating, extendable knuckleboom provides 4.5 feet of extension, with a total working length of 16 feet and 270-degree

range of motion. Standard with a fully opening rear door, the Tempest requires only one dump to eliminate all debris within the box. Also standard is a 50-degree dump angle and 50-inch clearance from splash plate to the ground, allowing for easy off-loading of material into roll-off containers. **800-323-1604; www.sewerequipment.com**

### 4. KENCO Slab Crab pavement removal bucket

KENCO's Slab Crab is a pavement removal bucket that reduces the time and expense in removing concrete slabs and bridge decks. Concrete is saw-cut into manageable slabs and lifted out. The slabs can be loaded directly onto a truck bed. A single operator can remove slabs cleanly, without disturbing the subbase. The new design features serrated upper jaws to keep slabs secure during lifting operations. The smooth lower jaw allows for the release of the slab in its desired location. The Slab Crab is available in models for excavators from 5,000 to 150,000 pounds. Custom models can also be fabricated to accept larger slab thicknesses. **800-653-6069; www.kenco.com**

### VMAC HVAC cooling system for the multifunction unit

VMAC's new HVAC cooling system for the VMAC multifunction unit enables its six-in-one multipower system to provide truck cab cooling. The system will help reduce idling and provide relief from high temperatures. The air conditioning will run without running the truck's engine, providing the comforts of a climate-controlled cab. Other benefits of the cooling system include reduced operating costs and an improved truck life with lower engine operating hours and engine wear. **800-738-8622; www.vmacair.com ▼**



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## CLASSIFIEDS

### EQUIPMENT & TOOLS

NEW 2020 MC1510 GapVax sewer cleaner: JD Brule Equipment, Located in Greely, Ontario, Canada, is selling a GapVax sewer cleaner on a 2020 Western Star 4700 chassis and is available immediately. The unit has 10-cubic-yard debris tank, holds 1,500 US gallons of water, standard 4,500cfm 18" Hg blower (8.6 hours) and Giant water pump. Please contact Adam Russell if you are interested. 613-293-1965, Ontario (C04)

2001 Vactor 2112HXY, dual fan system vacuum, 10gpm at 2500 psi. 12-yard debris box, 1,000-gallon water tank. 8-speed manual, 3126 CAT engine. 8" extendable boom, 86,000 miles (new engine in 2018), 10,774 hours. \$50,000. 920-734-4707, WI (C05)

2011 Vac-Con V390LHA combination cleaning truck. Low miles, great condition. 1998 Vactor 2110-36PD ex-city owned, low miles. See more photos and details of these units at [www.empireequip.com](http://www.empireequip.com). Contact Craig at 714-639-8352. (CBM)

2014 Freightliner 114SD with a VacAll AJV1215; 12-yard debris body, 1,500-gallon water, combination vacuum/jetting unit. (Stock# 052R). [www.VacuumSalesInc.com](http://www.VacuumSalesInc.com) (888) VAC-UNIT (822-8648) (CBM)

2005 Vactor combination sewer vacuum and high-pressure jet with positive-displacement blower and 15-cubic-yard debris hopper capacity, mounted on a Sterling chassis. 80gpm/2,000psi, 1,500-gallon water tank system. 600-foot hose reel capacity. \$85,000. 406-447-5050, MT (C04)

### RENTALS

Liquid vacs, wet/dry industrial vacs, combination jetter/vacs, truck & trailer mounted jetters. All available for daily, weekly, monthly, and yearly rentals. **VSI Rentals, LLC, (888) VAC-UNIT (822-8648) [www.vsi-rentalsllc.com](http://www.vsi-rentalsllc.com)** (PBM)

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Opdykes.com**

D05

## This Issue's Feature:

### Hydraulic selector valve makes switching simple

BY TIM DOBBINS

In an industry that relies so much on equipment and machinery to get the job done, quality parts and components are invaluable. It's easy to overlook how small components can make a big difference when aiming to improve productivity in an excavation business. The overall reliability of your equipment is directly related to the quality of the working parts within, and dependable equipment keeps your business efficient in the field.

APSCO believes its new **hydraulic selector valve** is one of those quality components that can be used to increase equipment efficiency. In response to clients asking for a better, cleaner and simpler selector valve, the company developed the APSV-100 to fit a wide range of applications in the excavation industry.

"APSCO has always been an industry leader in the air control market," says Joel Trane, ASPCO's

West regional sales manager. "We feel what separates us the most on the APSV-100 is a high-quality manufactured valve with APSCO air controls."

The APSV-100 is a three-way, two-position selector valve that allows flow from one pump to one of two hydraulic circuits, depending on the valve's positioning. Its versatility permits manual shift or pneumatically actuated operation from a truck's cab. "It is designed for directing flow to two different hydraulic circuits," Trane says.

The valve is designed so when flow enters the inlet port and the actuator is pushed in, flow is directed to the work port farthest away. When the actuator is pulled out, the spool shifts, allowing inlet flow to reach the port closest to the actuator.

The APSV-100 is engineered to keep out dust and debris, with a ductile cast iron body and no



Hydraulic selector valve from APSCO

exposed moving parts. It uses a chrome-plated spool and Buna-N rubber seals to create a tight closure to help maximize its life span. The valve is capable of handling flows up to 60 gpm with a maximum working pressure up to 4,000 psi. It uses a two-bolt mounting system that allows any position mounting, increasing its versatility.

"One of the most common applications is a dump truck pulling a pup trailer. This is one of the many mobile applications when this valve can be utilized," Trane says. "All of the customers who have used it have been very pleased with the fit and function of the valve."

918-622-5600; [www.apscopower.com](http://www.apscopower.com)

## Vermeer enters distribution agreement with MultiOne

Vermeer announced it has entered into a distribution agreement with MultiOne, a manufacturer of compact articulated loaders. Through the agreement, MultiOne will supply Vermeer-branded loader models to be sold, serviced and supported exclusively through Vermeer dealers across North America and the Caribbean.



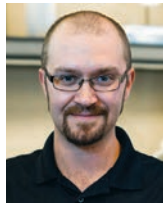
Kofi Barkoh



Lindsey Escalante



Brandon Buchleiter



Marcus Thomas

## Kaiser Premier announces management appointments

Dan Weber, president and CEO of Kaiser Premier, announced the promotion of several key employees to its executive management team. The promotions include Kofi Barkoh, executive vice president, general manager, Gulf Coast region. He joined the company in 2019 and was instrumental in launching the new Gulf Coast service center in Pasadena, Texas. Lindsey Escalante, vice president, supply chain and quality operating systems, has been with the company since 2005. In addition to her experience in administrative and financial roles, Escalante has 12 years' experience in supply chain management. Brandon Buchleiter, now the vice president of operations, started with the company in 2000. He has served as operations manager for the company since 2017. And Marcus Thomas, vice president of engineering, joined the company in 2006. He has held various positions in maintenance, product support and production management.

## Fink named president of Plastics Pipe Institute

The Plastics Pipe Institute named David Fink as its new president and executive director. Fink, a veteran of the plastics pipe industry, previously served as the chairman of the PPI board of directors from 2017 to 2019 and has held a number of other leadership positions within the organization. Fink earned his Bachelor of Science degree in chemical engineering from the University of Pittsburgh and his Bachelor of Science degree in chemistry from Gannon University in Erie, Pennsylvania.



David Fink

## GPS Insight acquires ServiceBridge

GPS Insight announced the acquisition of Chicago-based ServiceBridge, a leading field service management software company for small businesses and franchises with tools that empower field service teams. Founded in 2010, ServiceBridge offers software solutions that enable field service teams to dispatch technicians, manage customer data, streamline workflow management and franchise operations, and analyze results.

## ICUEE announces Hughes as 2021 show chair

The International Construction and Utility Equipment Exposition announced that Dave Hughes, vice president of global sales for McElroy, has been named 2021 show chair. He will be leading the ICUEE management committee, a volunteer group of utility construction industry executives for overall show planning. The biennial show last took place in 2019 and is set to reopen Sept. 28-30, 2021.

## Toro to acquire Venture Products

Toro announced it has entered into an agreement to acquire privately held Venture Products, the manufacturer of Ventrac-branded products. The transaction is subject to regula-

tory approvals and other customary closing conditions; it is currently anticipated to close before the end of Toro's fiscal 2020 second quarter. Based in Orrville, Ohio, Ventrac is a manufacturer of articulating turf, landscape, and snow and ice management equipment for the grounds, landscape contractor, golf, municipal and rural acreage markets.

## O.J. Watson Equipment joins Vac-Con distribution network

Vac-Con announced that O.J. Watson Equipment joined its distribution network providing coverage in Colorado and specific counties in Wyoming. Family-owned and -operated since 1988, O.J. Watson traces its roots back more than 100 years, building custom trucks from pickups to large workhorses since 1912. Headquartered in Denver, the company also operates a full-service facility in Greeley, Colorado.

## Vacuworx promotes Raines to regional service manager

Vacuworx announced an increased presence in the Gulf Coast area with the promotion of Paul Raines to regional service manager. Factory trained and certified to inspect, service and repair all makes and models of Vacuworx



Paul Raines

lifting equipment, he has been deployed north of San Antonio, as Vacuworx anticipates current and future needs tied to growth potential in South and West Texas and throughout the Gulf Coast region.

## Pelican Products' Corti promoted to COO, announces other staff changes

Pelican Products has combined two of its U.S. divisions into one entity. The company's consumer division, including outdoor/adventure, hunt, fish and camp, and its commercial/government division, including military, fire/safety, police, industrial and aerospace, have merged into a single unit. Stephan Corti has been promoted from his previous position as president of the company's commercial/government division to chief commercial officer, leading the combined entity.

As part of this reorganization, several other key leaders have been promoted to take on new and/or expanded roles: Mitra Giles to senior vice president of U.S. sales for the combined division; Kevin Deighton to senior vice president of engineering and product development; Michael Tessman to vice president of commercial and government sales; Catherine Shilander to director of commercial and government sales, Eastern U.S.; John Luna to senior director of product management; and Mike Iacono to director of sales operations and financial support. ▼

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# Happenings

## CALENDAR

**April 5-9**

**North American Society for Trenchless Technology (NASTT) No-Dig Show**, Colorado Convention Center, Denver. Visit [www.nodigshow.com](http://www.nodigshow.com)

**May 15-21**

**ITA-AITES General Assembly and World Tunnel Congress (WTC)**, Kuala Lumpur Convention Centre, Malaysia. Visit [www.wtc2020.my](http://www.wtc2020.my)

**May 19-21**

**National Utility Contractors Association (NUCA) Washington Summit**, Holiday Inn Washington Capitol, Washington, D.C. Visit [www.nuca.com/summit](http://www.nuca.com/summit)

**May 31-June 3**

**Electric Utility Fleet Managers Conference (EUFMC)**, Williamsburg Lodge and Conference Center, Williamsburg, Virginia. Visit [www.eufmc.com](http://www.eufmc.com)

**June 7-10**

**North American Tunneling Conference**, Gaylord Opryland Resort & Convention Center, Nashville, Tennessee. Visit [www.natconference.com](http://www.natconference.com)

**June 23-25**

**Safety 2020 Professional Development Conference & Exposition**, Orange County Convention Center, Orlando, Florida. Visit [www.safety.assp.org](http://www.safety.assp.org)

**Aug. 19-20**

**Water Finance Conference**, Washington Court Hotel, Washington, D.C. Visit [www.waterfinanceconference.com](http://www.waterfinanceconference.com)

**Sept. 14-16**

**Breakthroughs in Tunneling Short Course**, Fritz Knoebel School of Hospitality Management, University of Denver, Denver. Visit [www.tunnelingshortcourse.com](http://www.tunnelingshortcourse.com)

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



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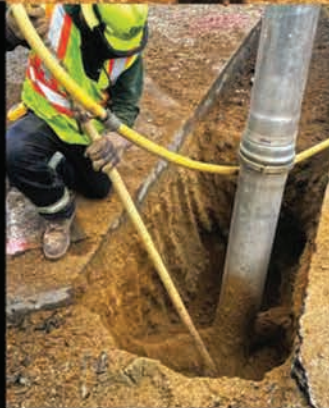
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