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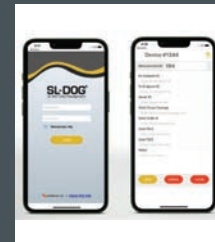
MARK MCGINNIS' UNEXPECTED DEATH DIDN'T MEAN A DOWNSLIDE FOR HIS LONGTIME PLUMBING AND DRAIN CLEANING COMPANY, AS HIS WIFE AND CHILDREN STEPPED UP TO ENSURE IT REMAINED STRONG AND ON A HEALTHY GROWTH TRAJECTORY / 34

Valerie McGinnis
Owner, \$15 Sewer & Drain

LOOKING ON THE
BRIGHT SIDE
CONTRACTOR BOUNCES BACK
FROM MEDICAL SCARE TO BUILD
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ON THE COVER // Valerie McGinnis wasn't sure what was going to happen to \$15 Sewer & Drain when her husband Mark suddenly died of a heart attack in 2020. The San Jose, California-based company had been his venture since 1986, and she had no experience in the industry. But she decided to keep it going for the sake of the company's many loyal employees. Three years later, \$15 Sewer & Drain is still going strong. "I feel really good about how far we've come and where we've brought the business," McGinnis says. "We're just carrying on what Mark started. I think he'd be very proud." (Photography by David Elkins)



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Email me with comments, questions or opinions at editor@cleaner.com

EMBRACE THE UNEXPECTED

Establish goals and long-term plans for the new year but also stay flexible to handle any surprises that come your way

THE ARRIVAL OF JANUARY produces talk of resolutions — personal or professional, ambitious or small. The turning of the calendar means an opportunity for change.

My opinion has always been that if you're truly committed to a change, you should have no problem doing so at any time of the year. You don't need to abide by the timeline of a calendar. Still, a new year has a way of making us look for areas that need improvement and perhaps establish some resolutions to work toward.

That usually comes with structure. You do some long-range

planning. You create tangible action items to check off the list along the way to your larger goals. You're trying to exert control. But what if something sudden and unexpected happens? It's important to have goals and plans. It's also important that you not be so rigidly focused on those plans that you can't make adjustments for unforeseen circumstances.

This month's issue features people who have overcome such challenges. Valerie McGinnis was accustomed to being a homemaker. Her husband Mark was the one whose day-to-day involved running \$15 Sewer & Drain, the company he founded in 1986 in San Jose, California. But when Mark suddenly died of a heart attack in January 2020, McGinnis found herself in charge. Her gut reaction was that the business wouldn't be able to continue without Mark, but after meeting with all the employees who counted on the company, she decided to keep it going. With help from some of her children, McGinnis figured out the inner workings of the business and how to run it. There have been some changes, but she's largely tried to simply continue Mark's vision.

"I feel really good about how far we've come and where we've brought the business," she says. "We're just carrying on what Mark started. I think he'd be very proud."

Kalen Barker, also featured here, is in a good place these days — two years into running his business Bright Side Plumbing in Kansas and already finding some quick success. But only three years ago, Barker was in a wheelchair, hindered by a health problem that made him uncertain about his working future. Doctors diagnosed it as a rare nerve disorder and Barker got on a treatment plan that eventually put him back on track. Along with steadily restoring his health, he ended up launching a new business.

"Three years ago, I never thought that I was even going to be able to work again, let alone think we were going to have a successful company that would grow this fast," Barker says. "I'm just grateful to be here and be alive and serving the people as well as we can."

While things might not go according to your ideal plan, there's still a good chance you'll be plenty satisfied where you end up if you stay flexible and embrace the unexpected.

As we head into 2023, I hope you're able to be successful with whatever goals you want to reach, but that you also remain nimble to handle anything unanticipated the new year may bring.

Enjoy this month's issue. **c**

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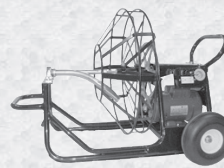


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LOOKING ON THE BRIGHT SIDE

KALEN BARKER BOUNCES BACK FROM MEDICAL SCARE TO BUILD A COMPANY FROM SCRATCH FOCUSED ON HELPING CUSTOMERS WITH ANY JOB

// By Cory Dellenbach



KALEN BARKER HAD NEVER REALLY THOUGHT ABOUT being his own boss. He had moved from Southern California to Kansas to work for another plumbing and drain cleaning company and to start a life of his own.

Everything was going great the first 10 years. But in 2018 things took a turn. Barker went from having a job he enjoyed to not knowing if he would ever be able to work again due to sudden health issues.

After fighting through those health issues and getting back to some normalcy, Barker knew he had to make a change. It was time to set off on his own and show himself and everyone that he could do it. Amid getting back to full health and at the beginning of a worldwide health pandemic, Barker opened the doors to Bright Side Plumbing, based in Overland Park, Kansas, in late 2020.

Today, the company continues to grow. It has three employees, two trucks and is planning the design of a third truck to be added to its fleet. Reviews online are glowing from customers, and Barker is planning for big things in the future.

“It sounds absolutely ridiculous because three years ago I didn’t even know if I would be able to leave my wheelchair and work,” Barker says. “I’m just grateful to be here and be alive and serving the people as well as we can.”

« Bright Side Plumbing owner Kalen Barker arranges various tool kits in his work truck.



Photography by Denny Medley

PLANTING THE SEED

Barker grew up in a plumbing family. His dad owned a plumbing firm in Southern California that Barker worked at starting as a teenager. Watching his dad grow a successful company — Barker & Sons Plumbing — may have planted that seed deep down in Barker himself.

He moved to Kansas in 2008 to start a family and was plumbing for other companies and enjoyed it.

“At the end of work one day in 2018, I was cleaning my truck in the parking lot and I started not feeling well,” Barker says. “One of my coworkers asked how I was doing, trying to make small talk, and I told him I wasn’t feeling so good. I collapsed and was unresponsive.”

That event started a series of about two years where Barker would have the same thing happen many times, taking him in and out of the hospital, and a neurologist taking away his driver’s license.

“I lost my job; I just couldn’t work,” Barker says. “We didn’t know what was going on for a long time. I saw many specialists and built up more than a quarter million in hospital debt.”

Bright Side Plumbing
OVERLAND PARK, KANSAS

OWNER	Kalen Barker
FOUNDED	2020
EMPLOYEES	3
SERVICES	Residential plumbing and repair, drain cleaning, trenchless sewer repair and replacement, pipe bursting, camera inspection
SERVICE AREA	Metro Kansas City
WEBSITE	www.callbrightside.com

The answers finally came that Barker was suffering from an extremely rare nerve disorder. After the diagnosis, doctors were able to treat it and Barker started to see improvements day by



«Barker checks the compression fittings just above the circulation pump (Grundfos) during a water heater installation.



“THREE YEARS AGO I DIDN'T EVEN KNOW IF I WOULD BE ABLE TO LEAVE MY WHEELCHAIR AND WORK. I'M JUST GRATEFUL TO BE HERE AND BE ALIVE AND SERVING THE PEOPLE AS WELL AS WE CAN.”

KALEN BARKER

day. In early 2020 he felt like it was maybe time to try getting back to work.

“I was very grateful to have a friend who owned a remodeling company, and he would let me work a little job here and there,” Barker says. “They would pick me up and drive me there and then back home. I had some setbacks and struggles for a while and we weren't sure if it was going to work, but I kept getting better and better.”

THE SEED GROWS

About six months after his last medical incident, Barker got his driver's license back. But he wasn't sure if he would be able to hold down a job with someone else, having the uncertainty of his medical issues possibly returning. He had to do something, though.

“So, I threw some tools in the back of my wife's SUV,” Barker says. “She said no to the dirty tools in the back of her car, so we started looking around for a little trailer to haul my stuff in.”

A few weeks later the couple was buying a plumbing truck and Barker began working with KickCharge — a graphics design firm that helps with logos, websites and more. Bright Side Plumbing launched in late 2020.

While the logos and graphics for the trucks weren't ready until April 2021, Barker was already off and running to and from jobs by then.

“We were so destroyed from my medical debt that we're building this company up with nothing but profits,” Barker says. “We've been throwing all of our profits back into the business and we've just been flying. It's been crazy.”

FULL-SERVICE OPERATION

Barker wasn't shy about doing as much as he could. While most companies start by doing either plumbing or drain cleaning, then easing into the other service, Bright Side Plumbing took off offering both services immediately.

“We started it all right away,” Barker says. “However, I consider drain cleaning typical plumbing work. We have our inspection cameras, locators and drain cleaning equipment.”

The company primarily handles residential service and repair with two service techs and an apprentice, including Barker. He has a 12-foot Ford E350 cutaway box truck and a Ram 1500 to haul all the equipment ranging from utility locators (RIDGID) to sewer inspection cameras (Kyrie Sewer Cameras), Milwaukee Tool power tools and Knipex hand tools, and he's outfitting another vehicle specifically for drain cleaning only.

“Every power tool I have is Milwaukee Tool,” Barker says. “I’m not trying to be a fanboy about it because I do my research. Whatever tool I think is going to serve me the best, that’s what I’m going to get.”

The company has also taken on some trenchless sewer repair and replacement but doesn’t own the equipment. Instead, Barker rents it out along with a technician that operates the tools.

“A while ago I ran into a situation where one day out of the blue, I realized that we had to do a pipe burst on a job,” Barker says.

That same day he got a call from someone selling the pipe bursting equipment, but Barker wasn’t ready to buy yet. He invited the salesperson to the job site to demo it and said he would consider renting it. It turned out that the salesperson did rentals on both himself and his machine.

“He’s a semi-retired guy and for a great price I have one more laborer and a bursting machine anytime I need it,” Barker says. “So, I’ve been


able to spend that money that I would’ve used on buying a pipe bursting system and a new technician on other things.”

ABOVE AND BEYOND

Barker is particularly proud that he and his crew find ways to go above and beyond with customer service. He believes that is what sets them apart from some of the competition in the area.




▲ Bright Side Plumbing apprentice James Gardner uses a Milwaukee Tool driver to secure a cover at a water heater installation job.



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➤ Barker uses a Milwaukee M18 press tool on a water heater installation job.

DITCHING THE SOLDERING

Kalen Barker always considered himself a diehard soldering plumber. There was nothing better than soldering pipes together for a repair or install job.

That was until the owner of Bright Side Plumbing in Overland Park, Kansas, was training a new plumber in early 2021 where the job required soldering many joints. After a few of the joints were completed, the plumber in training asked Barker if every joint needed to be done this way. The answer was yes.

“He just looked at me and asked when we were switching to press tools,” Barker says.

That’s when Barker started to explore the possibility of switching to press tools. A short while later the company made the switch from soldering to using Viega press fittings and a Milwaukee M18 press tool.

“I can work without it, but would I ever want to in my whole life work without it again? Absolutely not,” Barker says. “The press tools are the single most amazing improvement to my workflow and my health that I’ve made in plumbing since I even started in it.”

Barker says the benefits are many, including not having soldering debris all over him or his clothes, not setting off smoke alarms that are hidden, not making a customer’s home stink with the soldering, no open flame usage and no risk of starting a fire.

The company also has the MegaPress to handle gas lines as well.

“I am a part of many online groups out there and I know there are a lot of purists out there that cannot stand press tools,” Barker says. “My press tools, though, I would never want to work without those again.”

“I worked for many large companies and they really, quite frankly, changed my life and my career when I look at plumbing,” Barker says.

Barker and his team make it a priority to add as much value to the service as they can for a customer and says it’s something the larger companies often can’t match.

“We’re doing a lot of things we’re not charging people for,” he says. “We’re looking for opportunities to really take people over the top and really wow them.”

what we were doing,” Barker says.

It didn’t stop there. After the job was finished, Barker offered to stay and clean the basement some.

“She was stressed about it and we didn’t want to leave her stressed,” Barker says. “We wanted to do something to help her, whether it be move some stuff or clean it, or something. Stuff like that I really do enjoy.”

While some people are shocked when they hear what Bright Side Plumbing is willing to do for its customers, Barker says

“WE’RE LOOKING FOR OPPORTUNITIES TO REALLY TAKE PEOPLE OVER THE TOP AND REALLY WOW THEM.”

KALEN BARKER

Barker recalls a water heater installation job. He wanted the customer to come down into the basement to see the work the team had completed, but the customer mentioned she didn’t like going down there.

“It depressed her because it was messy, so instead we took pictures to show her

that is part of how the company got its name.

“That’s what we’re here for,” he says. “We’re here to provide an exceptional service and be on the bright side of things.”

ACTIVE IN THE INDUSTRY

When it comes to helping the young

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» Bright Side Plumbing apprentice James Gardner (left) and owner Kalen Barker stand in front of a company service truck. Barker received help on the design of the company logo and name from KickCharge, a graphic design firm.

“I DO MY RESEARCH. WHATEVER TOOL I THINK IS GOING TO SERVE ME THE BEST, THAT’S WHAT I’M GOING TO GET.”

KALEN BARKER

company grow, one way Barker is making that happen is by being involved in many industry groups. Beyond informal social media groups, Barker is also an active member of the Plumbing-Heating-Cooling Contractors, the IAPMO and the International Code Council.

“They each have their advantages,” Barker says. “For example, the PHCC has formal training programs, like four-year apprenticeships and they have fast-tracked programs as well where you can get from a beginner to getting trained up quick.”

Not only does each organization offer resources, but they also lobby for the industry, which Barker says is a big draw.

“They’re fighting for guys in the trade that aren’t even part of their membership, and I do appreciate that,” he says.

Barker says that by being a part of each organization, it adds a certain amount of credibility to him and his business.

“I love talking about the organizations,” Barker says. “I love talking about them when I’m hiring people and to my customers. For a small company owner, it helps me feel like I’m not on an island.”

BIG PLANS

With a couple years under his belt now with Bright Side Plumbing, Barker has some goals in mind for the next several years.

“I worked with a business coach named Tommy Mello who owns a garage door company and has gone national with it, and I like his plan for doing that,” Barker says.

“Once he finds a market he wants to try, he hires a service or market manager to be in charge of each location and has just one central call center.”

He hopes to follow that business model as he gets his own company more established, but for right now, he’s enjoying life and growing the company one step at a time.

“Three years ago, I never thought that I was even going to be able to work again, let alone think we were going to have a successful company that would grow this fast,” Barker says. **c**

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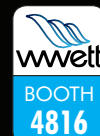
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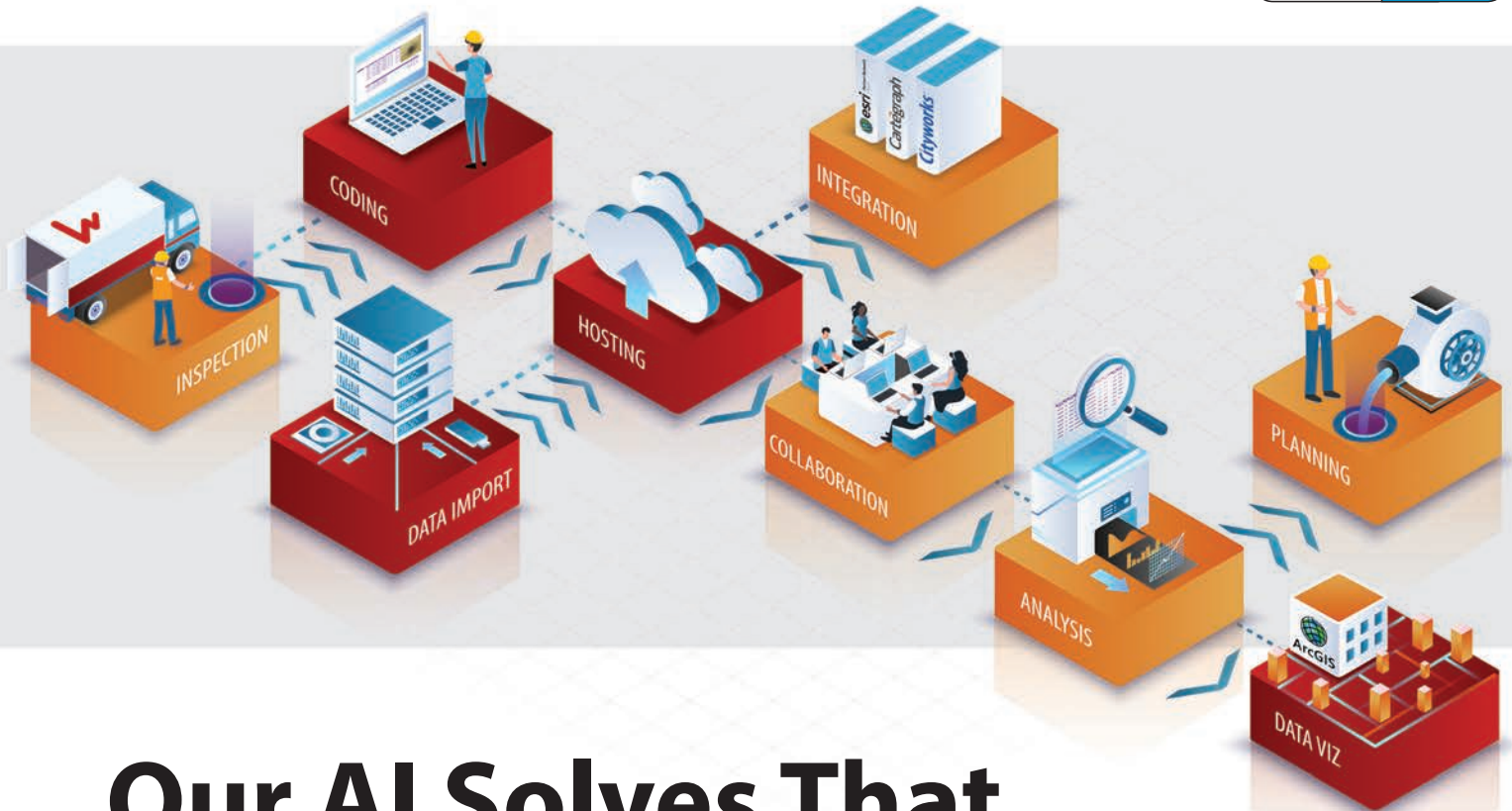
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Tricia Groff

COACH 'EM UP

Bringing on a coach can help your crew members learn vital skills beyond the technical aspects of plumbing and drain cleaning // By Tricia Groff

EXECUTIVE LEADERSHIP COACHING has gained popularity in the past few decades, and many people wonder exactly what it is and if it's worth the investment.

There are different types of coaches, and one of the first steps is to recognize where coaching might have the most impact for a plumbing and drain cleaning business. Although it is a skill-based business, it has the same human dynamics and difficulties as other businesses. At some point, most businesses are left with questions of:

- How do we keep customers happy?
- How do we fire bad customers?
- How do we find and keep reliable employees?
- What do we do when there is conflict?
- If we grow, how do we maintain the values and work ethic reputation that made us successful at a smaller size?
- What if someone is a great plumber but awkward at interacting with people?

DEVELOPING PEOPLE SKILLS

Coaches with high expertise in emotional intelligence can help leaders who may excel in their technical skill sets but struggle with nuanced human interaction. Coaches with expertise in organizational development can help growing plumbing and drain cleaning businesses figure out the dynamics of adding individuals to the team and growing a cohesive culture. Coaches with business

acumen can act as an adviser or as a sounding board for businesses that are pivoting or growing.

One of the most common concerns and uses of coaches is to improve leadership skill sets. Many people land in leadership positions by default, not because they wake up one morning and think, "Wow, I'd like to deal with some frustrating and unsolvable problems today by becoming a leader." In trade businesses, such as plumbing and drain cleaning, the phenomenon is especially common. Plumbers decide to have a business, eventually hire someone to help them, and suddenly find themselves splitting time between plumbing and managing many people problems for which they were never trained.

Some leaders in plumbing and drain cleaning businesses will have excellent interpersonal skill sets, while others may flounder. Coaches who have high emotional intelligence can guide new leaders to increase relational skill sets in areas such as how to give feedback to employees, how to deal with underperforming employees, and how to interact with colleagues or business partners who have different personalities or approaches to work. For companies that specialize in residential services, coaches can help businesses navigate the tricky dynamics of providing professional services in someone's home.

One of the frequently under-resourced problems is how to screen and turn down customers. Owners and leaders who are taking calls are tempted to go with the culture imperative of "More customers, more work, more profit." Yet customers who are likely to complain or sue can cost thousands of dollars to businesses. Hence, the value of coaching may help leaders address both the internal and external people dynamics.

BENEFICIAL OR A WASTE OF MONEY?

Where will coaching be a waste of money for a plumbing and drain cleaning business? The most common mistake occurs when someone hires a

ONE OF THE MOST COMMON CONCERNS AND USES OF COACHES IS TO IMPROVE LEADERSHIP SKILL SETS. MANY PEOPLE LAND IN LEADERSHIP POSITIONS BY DEFAULT, NOT BECAUSE THEY WAKE UP ONE MORNING AND THINK, "WOW, I'D LIKE TO DEAL WITH SOME FRUSTRATING AND UNSOLVABLE PROBLEMS TODAY BY BECOMING A LEADER."

ABOUT THE AUTHOR

Tricia Groff is an executive adviser and executive coach who works with high achievers and their organizations. She is also a licensed psychologist who brings 20 years of behind-the-scenes conversations to her recommendations for workplace wellness and profitability. She is the author of *Relational Genius: The High Achiever's Guide to Soft-Skill Confidence in Leadership and Life*.

coach to try to fix a leader with a character or personality problem. If people are not trustworthy or mean-spirited, coaching won't help. Coaches can't make people be motivated, open to learning, kind and reliable. In those situations, a coach will be better utilized to assist in the firing process or succession planning to help the offending leader exit the company.

Where will coaching be highly beneficial? When owners or leaders are both highly motivated and open to learning, they will be able to take the suggestions or thoughts of a coach and execute at a rapid speed. They don't have to agree with the coach on everything, but fast execution speeds up the cycle of assessing the outcomes of strategies and changing them as necessary. It's also a fast way to see if the coaching feels worth the investment. Change does take time, but if leaders simply work with a coach for a few months and have to ask themselves whether it is helping, it's the wrong coach.

Unlike the plumbing and drain cleaning business, coaches do not have to have a specific set of credentials. To find the right coach, it's best to ask about their training, years of experiences, the problems with which they've worked, and their approach to coaching. You should get the sense that the coach is both competent and a person with whom you can speak freely. **c**

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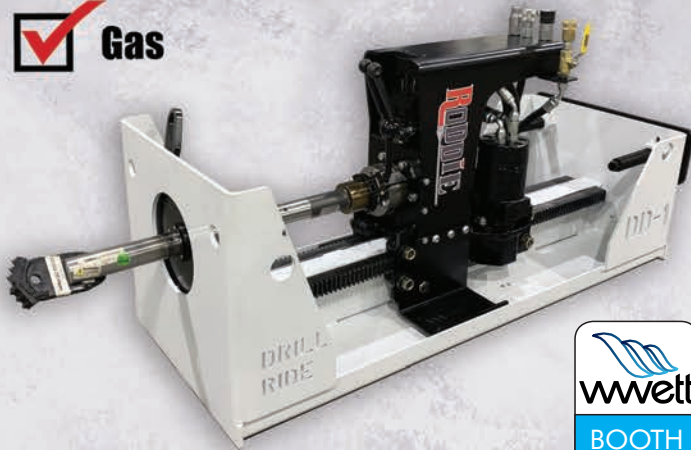
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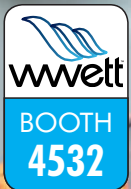
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A DYNAMIC DUO

Air excavators and portable vac units work in tandem for Hawaii contractor to maximize efficiency on a variety of job types // By Ken Wysocky

WORKERS AT HAWAII PRIVATE LOCATORS dig a lot of holes every year while locating underground utility lines. In fact, employees do about 500 potholing jobs a year in order to expose and locate underground infrastructure without damaging the very things they're striving to locate. To maximize efficiency — and profitability — Dave Dickey, owner and CEO of the Honolulu-based company located on the island of O'ahu, depends on a one-two technology punch.

The first punch comes courtesy of pneumatic excavators from AirSpade (a division of Guardair Corp.), which use compressed air to knife through soil. And two portable vacuum units manufactured by Pacific Tek — a PV500 and a PV150 — deliver the second blow by sucking the loosened soil from the holes.

HAWAII PRIVATE LOCATORS

OWNER Dave Dickey

MACHINES PV150 and PV500 portable vacuum units from Pacific Tek and pneumatic excavators from AirSpade

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FEATURES AirSpades offer from 105 to 225 cfm of pneumatic power; PV150 delivers 325 cfm of vacuum power and includes a 150-gallon debris tank; PV500 generates 525 cfm of vacuum power and includes a 500-gallon tank

COST Roughly \$1,700 to \$1,800 for the AirSpades and about \$23,000-\$33,000 and \$60,000-\$98,000 for the PV150 and PV500, respectively, depending on options

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“They’re a match made in heaven,” says Dickey, who also owns two other related companies, Subsurface Utility Engineers and Damage Prevent Hawaii. “Those machines are the bread and butter of our vacuum excavation operations.”

PLENTY OF POWER

The PV150 is a skid-mounted unit affixed to the flatbed of a Ram 3500 dually pickup truck. It delivers 325 cfm of vacuum

« Employees at Hawaii Private Locators pose with AirSpade pneumatic excavators and a Pacific Tek truck-mounted PV150 portable vacuum machine. From left to right are: Dwayne Costa, field engineer; Dave Dickey, company owner; and Billy Massey, technician.

power, and the debris tank can hold 150 gallons of material. The PV500 is a larger unit that's mounted on a tandem-axle trailer. It generates 525 cfm of vacuum power, and the tank can hold 500 gallons of material.

The company owns two AirSpade models: an AirSpade 2000 construction kit (225 cfm output) and a Utility AirSpade 4000 (105 cfm output).

About 80% of the work performed by HPL is done on military bases in Hawaii, while municipal, state and federal contracts chip in the balance.

"From the time we get up in the morning to the time the sun sets, we're working, mostly on military bases," Dickey says. "The military is spending billions of dollars to upgrade its facilities in Hawaii."

BEVY OF BENEFITS

Dickey invested in the machines mainly for three reasons. For starters, the AirSpades (about \$1,700 for the 2000 model and roughly \$1,800 for the 4000 model) and the portable vacuum units (about \$23,000 to \$33,000 for the PV150 and around \$60,000 to \$98,000 for the PV500, depending on options ordered) cost significantly less than buying a hydroexcavation truck.

Secondly, his three employees can use the technologies in tight spaces that a standard hydroexcavator could never access.

"You just can't get those big trucks into small spaces," Dickey says. "But the Pacific Tek units are small enough that we can even use them in some parking garages on military bases."

And last but not least, the soil sucked up by the Pacific Tek units is dry, not wet. As such, it can easily be used as backfill for the excavated

hole, as opposed to having to dispose of the slurry, which takes time and increases labor and fuel costs.

"Air excavation is much cleaner and more efficient," Dickey says. "The AirSpades have sort of made us air-excavator pioneers here in Hawaii. Everyone is starting to use them now."



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DAVE DICKEY

MONEY MACHINES

On the PV150, soil or other debris has to be shoveled out. But the PV500's tank features a tilt mechanism for easy dumping of waste.

DOES MORE THAN JUST DIG

Furthermore, the PV150 also does double-duty as a water extractor, Dickey points out, which enables it to generate even more money.

"In Hawaii, there's a lot of water in manholes because of the high water tables," Dickey explains. "So we often get called out to suck out the water, then dispose of it in sewer manholes designated by the military base, which then processes the water with its private wastewater treatment system. We probably do about 100 water extractions a year."

Moreover, the units are very easy to use.

"Operating them is almost elementary," Dickey says. "They're really easy to use. That's one of the main things I love about them. Almost anyone could learn how to operate one in short order — you don't need to be a rocket scientist to run them."

GREAT ROI

The units also generate a great return on investment. Dickey says he charges \$350 an hour to use them with an 8-hour minimum charge.

"If we run them five days a week, they're pretty profitable," he says. "They pay for themselves fairly quickly."

But Dickey cautions that they're not as well-suited for residential work because it's unlikely that homeowners would want to spend that kind of money to excavate a hole in the ground.

Does Dickey think the portable vacuum units could have applications in other industries, such as sewer cleaning and maintenance? Absolutely, he says.

"It will suck up sewage and water. You could use it anywhere you need to extract water. They're very versatile machines." **c**



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STAYING THE COURSE

MARK MCGINNIS' UNEXPECTED DEATH DIDN'T MEAN A DOWNSLIDE FOR HIS LONGTIME PLUMBING AND DRAIN CLEANING COMPANY, AS HIS WIFE AND CHILDREN STEPPED UP TO ENSURE IT REMAINED STRONG AND ON A HEALTHY GROWTH TRAJECTORY // By Ken Wysocky



▲ Savannah McGinnis uses a LeakTronics leak detector on a job.

When Valerie McGinnis' husband Mark unexpectedly died of a heart attack in January 2020 at age 60, she wasn't sure what would happen to \$15 Sewer & Drain, the business the well-known plumber and drain cleaner had started in 1986 in San Jose, California.

That all changed when she met with grief-stricken employees the following Monday morning.

"They were beside themselves," McGinnis says. "When I saw the looks on the faces of all these grown men, that's when I decided to keep going. I couldn't just walk away from almost 20 families."

That decision set in motion an emotionally and physically exhausting journey for McGinnis and her five children, three of whom joined the company to keep it traveling on the path envisioned by their father: Savannah, 20; Steven, 28; and Charles, 31.

"I went from being a 'class mother' at my kids' schools and a stay-at-home mom to a full-time employee," McGinnis says. "It was very difficult to step into Mark's shoes because he did almost everything. Between the long hours and dealing with things I didn't know a lot about, like finances, money for payroll and materials, it was very challenging. I was putting in 14 hours a day on some days.

"We all kind of worked into areas that fit our strong suits and then it got easier," she adds. "I also hired an outside payroll service, a CPA and other professionals to get things done right. Now I mainly take calls and handle customers, which is a much better mix than it was in the beginning."



A GAPING LOSS

The family had giant-size shoes to fill. For decades, Mark was a fixture in the plumbing and drain cleaning arena in the San Francisco Bay Area, a skilled technician who slowly but surely built a business — and a brand — by pledging to unclog drains for \$15. He strongly believed in embracing new technology, comprehensive training for employees, and never leaving a job unfinished, no matter how difficult.

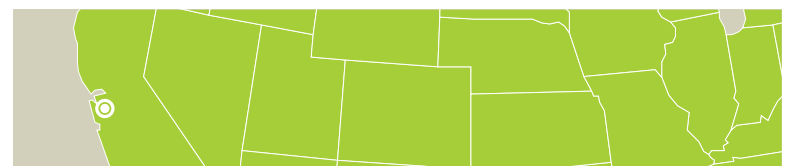
“We still get calls every day from customers who say, ‘My plumber is here and can’t get my drain open, and he says you’re the only company that can help me,’” McGinnis says. “Mark was very big on never leaving a customer with a clogged drain. We just don’t do that. Ever. Period.”

Mark also possessed the proverbial heart of gold, always willing to tackle drain issues that other plumbers wouldn’t touch or give free plumbing advice to customers.

In fact, McGinnis says Mark would routinely take customer calls late at night, tell them what parts they needed to fix a problem, then talk them through the repair over the phone. In honor of that philosophy about doing the right thing for customers, every technician now is required to stay in the office on a rotating basis on Wednesdays and do nothing but take calls from customers and give them free repair advice.

“We do that because that’s what Mark used to do,” McGinnis says. “He always said that’s what made the company strong. He felt if he did the right thing, he’d always land on his

▲ A big part of why Valerie McGinnis decided to keep her husband’s company going following his death were the many loyal employees. “I couldn’t just walk away from almost 20 families,” she says.



\$15 Sewer & Drain

SAN JOSE, CALIFORNIA

OWNER Valerie McGinnis

FOUNDED 1986

EMPLOYEES 18

SERVICES Drain cleaning, residential service and repair plumbing
Primarily northern Orange County, California

SERVICE AREA Metro San Jose/San Francisco area

WEBSITE www.thegreatamericanplumbing.com



▶ Charlie Morales uses a HotJet II trailer-mounted jetter from HotJet USA on a job.

◀ Savannah McGinnis snakes a drain using a cable machine from Gorlitz Sewer & Drain.

“WHEN I SAW THE LOOKS ON THE FACES OF ALL THESE GROWN MEN, THAT’S WHEN I DECIDED TO KEEP GOING. I COULDN’T JUST WALK AWAY FROM ALMOST 20 FAMILIES.”

VALERIE MCGINNIS

feet when things got tough. It’s not always about making money. We’re dealing with people at their worst — stressed and upset. That gives us a chance to save the day and that’s what really matters.”

DOING THE RIGHT THING

Mark got into the trade after quitting high school and working for a neighbor who ran a drain cleaning franchise.

“He kind of fell in love with the freedom to be out in the field with customers, not stuck in an office all the time,” McGinnis says.

After working for a couple years, he encountered a situation that spurred him to form his own company. During a service call for a clogged drain at a home owned by an elderly couple, both ill with cancer, Mark discovered that they’d merely forgotten to deploy their bathtub trip lever. He tripped it and left without charging them for the call.

A supervisor later questioned him about the free service, noting that the company’s mission was to make money.

“Mark said he never felt worse in his life,” McGinnis recalls. “It was a moment he never forgot. He figured there had to be a better way.”

And so \$15 Sewer & Drain was born. The business model was simple: Attract customers with a low drain-cleaning price and make up the revenue shortfall by amassing a large volume of business.

The formula worked. By the mid-1990s, Mark was running 45 trucks, employed about 43 technicians and served the entire San Francisco Bay Area. But after getting married and having children, he scaled back to about 20 technicians and trucks to make the business more manageable.

Talk about volume: From the day the company started through September 2022, the company has created 788,202 invoices, McGinnis says. That comes out to an average of nearly 21,900 a year.

“That number absolutely blows me away,” McGinnis says.

The company no longer charges only \$15 for drain cleaning. How does staff explain the discrepancy between the company name and the now higher price?



McGinnis says they tell customers that the company name when it started was \$15 Sewer & Drain, but the actual charge has increased over the years to \$15 just for a trip charge, plus \$100 for a one-hour service call.

“If the call takes more than an hour, we charge \$50 for every extra half-hour,” McGinnis says. “But I’d say about 75% of our calls take about an hour.”

EQUIPMENT INVESTMENTS

The company owns a full complement of machines and equipment, including a pipe bursting system from TRIC Tools and a brush coating system from Picote Solutions, both of which reflect McGinnis’ philosophy about embracing technology that can open up new markets and better serve customers.

The company also owns a HotJet II trailer-mounted, hot-water jetter (4,000 psi at up to 10 gpm) from HotJet USA; a sonar leak detection machine from LeakTronics; GO 50, GO 62 and GO 68 cable drain machines from Gorlitz Sewer & Drain; a GO 1500 Series water jetter (1,500 psi at 2.1 gpm), also from Gorlitz; a standard RIDGID SeeSnake pipeline inspection camera, plus SeeSnake Mini Reel, Compact C40 and Compact M40 inspection cameras; RIDGID FlexShaft 120 and 204 drain machines; a RIDGID NaviTrak Scout pipeline locator; a pipeline inspection camera from Forbest Products Co.; jackhammers from Robert Bosch Tool Corp.; ProPress tools and concrete saws from Milwaukee Tool; and a MaxiMiller descaling machine from Picote Solutions.

The company runs 17 service vehicles for plumbing and drain cleaning technicians. About half the fleet consists of Ford cargo vans, with Dodge Ram ProMaster vans filling out the rest of the fleet. The company is slowly converting the entire fleet to ProMaster vans, McGinnis says.

“Mark always was big on having the best — the latest and greatest in equipment,” she says. “He firmly believed that reliable and productive equipment always gets jobs done faster and more efficiently.

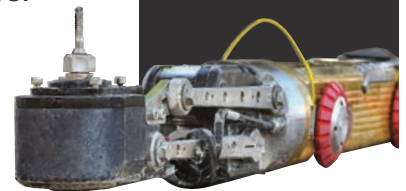
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“\$15 Sewer & Drain’s HotJet II is a hot-water jetting unit capable of producing 4,000 psi at up to 10 gpm. “It has brought us to a different level in drain cleaning,” owner Valerie McGinnis says. “Now we can clean up to 12-inch-diameter drains and do more commercial work. It has opened up a whole new market for us.”

“Because our business model has always been based on high volume at low cost, our technicians have to be efficient — get in and get out. Each of our technicians does six to eight service calls a day for drains which, from what I understand, is more than normal.”

NEW MARKETING APPROACH

One thing that has changed in the past few years is the company’s marketing strategy. For reasons unknown, the number of drain cleaning and plumbing businesses in San Jose’s service area has skyrocketed.

In addition, the pandemic hurt business, which forced the company to increase its marketing. The upshot? The company started using social media platforms such as Yelp and Instagram to further bolster the \$15 Sewer & Drain brand.

“Before COVID, we made it because we had so many repeat customers,” McGinnis explains. “About nine out of 10 people were either repeat customers or local plumbers referring business to us.

“But when COVID first hit, it was an eye-opener when we realized what we had to do (to strengthen marketing efforts and keep phones ringing). We had no social media presence — we fell a bit behind in that area.”

“BECAUSE OUR BUSINESS MODEL HAS ALWAYS BEEN BASED ON HIGH VOLUME AT LOW COST, OUR TECHNICIANS HAVE TO BE EFFICIENT — GET IN AND GET OUT.”

VALERIE MCGINNIS

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HOT-WATER JETTER HEATS UP BUSINESS OPPORTUNITIES

During the nearly four decades that the late Mark McGinnis built \$15 Sewer & Drain into a well-recognized business in the San Jose/San Francisco Bay Area, he consistently reinvested profits into the company and prided himself on embracing advanced technology.

So it seems only fitting that six months after he died unexpectedly of a heart attack in January 2020 that his wife, Valerie McGinnis, who now owns the company, decided to invest about \$50,000 in a trailer-mounted, hot-water jetting machine (4,000 psi at up to 10 gpm) made by HotJet USA.

“Mark hadn’t talked about buying one,” McGinnis says. “But then I saw an ad in *Cleaner* magazine for a HotJet jetter and the thing that jumped out at me was the hot-water aspect. It just made sense that hot water would clean drainlines better.

“We had been looking for a different piece of equipment to bring in because Mark always was big on investing in new equipment. And this fit the bill.”

But it was more than just sentimental reasons that spurred McGinnis to make this considerable investment.

“It has brought us to a different level in drain cleaning,” she explains. “Now we can clean up to 12-inch-diameter drains and do more commercial work. It has opened up a whole new market for us — got us a piece of the drain cleaning pie we weren’t eating before. We could clean 2-, 3- and 4-inch-diameter drains all day long, but when you hit drains filled with sand or slurry, we’d have to call someone else. Plus, if you say you’re a drain cleaning company, but you can only do up to 4-inch lines, how good can you really be?”

The machine also generates significant amounts of revenue. In fact, McGinnis says it paid for itself in about nine months.

As a bonus, HotJet officials flew McGinnis and some key employees out to the company’s production facility in Utah for training.

“HotJet’s customer service and follow-through is amazing,” McGinnis says. “If we get stuck on a job, they’ll walk us through it by phone.”

Moreover, in honor of Mark’s emphasis on employee training, McGinnis held a companywide training session for technicians at a trailer park; she offered to clean a sewer mainline running through the park for free in exchange for the training opportunity.

“We definitely took a gamble on it because if Mark would’ve been here, he would’ve done that,” McGinnis says. “You have to stay on the forefront of technology.”

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« Charlie Morales replaces a garbage disposal in a residence.

McGinnis says the company plans to extend its service coverage northeast of San Jose to the east side of Francisco Bay, out to Alameda County, and south of San Jose to Santa Cruz County.

“I FEEL REALLY GOOD ABOUT HOW FAR WE’VE COME AND WHERE WE’VE BROUGHT THE BUSINESS. WE’RE JUST CARRYING ON WHAT MARK STARTED. I THINK HE’D BE VERY PROUD.”

VALERIE MCGINNIS

But now the business enjoys a significant amount of reviews on Google and Yelp. As of early October 2022, the company had 480 reviews posted on Yelp alone.

“And we don’t even encourage customers to post reviews — they just do it on their own,” McGinnis says. “It’s kind of amazing.”

The company is also doing some internal restructuring to better market its plumbing services, which aren’t as obvious to customers, given that the name of the business is \$15 Sewer & Drain. Instead of renaming the entire company and ditching nearly 40 years of built-up brand equity, the company is marketing its plumbing and trenchless pipeline rehab services under a different name, The Great American Plumbing Co.

“We think of it as two different divisions,” McGinnis says.

MORE GROWTH EXPECTED

Looking ahead, McGinnis plans to keep building on her husband’s legacy, which extends far beyond the company itself. She estimates that more than a dozen former employees have gone on to form their own companies — something that never upset Mark.

“He always wanted our guys to better themselves — have great careers,” she says.

“We feel we can step into those areas slowly and still maintain great customer service,” she says.

And as McGinnis looks back at three very tumultuous — as well as fulfilling and gratifying — years, she knows she made the right decision in January 2020.

“I feel really good about how far we’ve come and where we’ve brought the business,” she says. “We’re just carrying on what Mark started. I think he’d be very proud.” c

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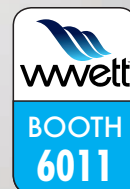


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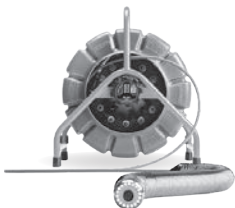
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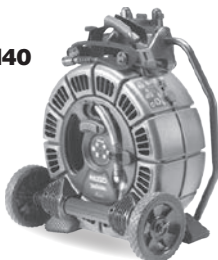
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A FORMULA FOR PROTECTING INFRASTRUCTURE

Epoxytec focuses on developing solutions to rehabilitate water and wastewater infrastructure

// By Luke Laggis

EPOXYTEC HAS BEEN in the water and wastewater industry for three decades. As a manufacturer of restoration compounds, epoxies and protective coatings, the company has played a part in countless infrastructure protection and rehabilitation projects.

Today, the company's focus is on developing products and systems to repair, rehabilitate, coat and line wastewater and water infrastructure, while protecting structural assets from hydrogen sulfide and eliminating inflow and infiltration. Epoxytec prides itself on providing customized services and programs to combat corrosion, abrasion, chemical attack and other threats. The company performs inspections and helps prescribe specific protective lining and rehabilitative solutions for water and wastewater treatment plants, water distribution, sanitary sewer collections systems, manholes and lift stations.

Founded by Joe Caputi, the company's history demonstrates experience, resilience and drive for excellence in the

protective coating industry. As an Italian immigrant living in New York, Joe began his career as an independent field technician in 1973. He mastered the art of selling, which combined with his business acumen and knowledge of protective coatings formed a recipe for success. He founded Epoxytec in 1990, and as industries expanded, so did his product line. Joe's son Michael Caputi joined the company in 2001 and helped drive the company's growth. Today he serves as vice president of Epoxytec as well as the MCOR brand, operating under the umbrella of Tnemec, which completed an acquisition in 2021.

Cleaner spoke with Michael about the company's past, present and future.

CLEANER: How do you see the sewer and water infrastructure rehabilitation industry evolving?

Caputi: During the past few decades, we've seen the growth of innovation. Cementitious repair compounds and lining materials are improving, with modifications to incorporate enhanced curing mechanisms and improved corrosion resistance using polymers — incorporating epoxy and other polymers with cements for example.

Other advancements have been the resin and reinforcement systems of the liners themselves. We're noticing a decline in engineers specifying thinner, multicoat traditional epoxy coatings; instead, they're selecting higher-build, higher-strength, reinforced 100% solids systems to accommodate many other forces that are at play in water and wastewater environments, especially when confronted with aged and highly fatigued infrastructure. In fact, we've noticed competitors transitioning from thinner-mil coatings to higher-build, higher-strength epoxy or polymer lining solutions of which many offer enough strength to fit structural considerations with thickness calculations. Formulators are keeping busy as an incredible amount of material science and polymerization techniques are available today for R&D.

In recent years, we've been working with engineers who



MICHAEL CAPUTI

Vice President of Epoxytec

YEARS IN THE INDUSTRY: 32

YEARS WITH COMPANY: 22

"AT EPOXYTEC, OUR FORMULATION AND R&D TEAM ONLY FOCUSES ON WATER AND WASTEWATER, AND THEREFORE ALL THE TESTING AND DESIGN OF PRODUCT IS BASED ON THESE CONDITIONS."

MICHAEL CAPUTI



« Epoxytec provides a variety of rehabilitative and lining solutions, focusing on applied, immersion rehab and lining products that protect against H2S and seal against I&I.

“A SMALL CREW WITH MIXING DRILLS, TROWELS AND/OR ROLLERS CAN GET STARTED WITH BASIC MANHOLE OR LIFT STATION REHAB AND LINING.”

MICHAEL CAPUTI

specify these advanced systems with the understanding that although possibly slightly higher in cost at the beginning, over the long-term, the cost savings are extended and realized with higher performance due to extended life cycles. This is a terrific trend.

CLEANER: What kind of solutions and capabilities does Epoxytec provide?

Caputi: Epoxytec provides a variety of rehabilitative and lining solutions. Epoxytec focuses on applied, immersion rehab and lining specific to the water and wastewater industry by developing a portfolio of product solutions to protect against H2S and seal against I&I — products to enhance structures and protect them long-term. This is done by screening and certifying contractors and assisting engineers and utilities with proper product selection based on specific conditions. Doing this correctly offers the owner a well-drafted specification and plan, with warranty inclusion for quality assurance.

CLEANER: Can you provide some insight on the company's product development process?

Caputi: Epoxytec launches R&D projects mainly due to market demand and customer feedback. It is a team effort, first led by field technicians who intimately understand the need for product deliverables from a contractor's perspective — material handling, usability, shelf-life considerations, flow characteristics, sag resistance, gel times and many other variables. This stage is important because before it goes to the formulator/chemist, our field services team provides parameters and advocates for properties that chemists may not always consider. Many times,

we may involve our preferred contractors to be a part of this stage and help with targeting properties and characteristics that would be beneficial in the field. In addition, surface forgiveness, surface acceptance, moisture tolerance and other properties are all taken into consideration.

Then the chemist goes to work figuring out the resin system, curing agents and the plethora of reinforcing agents, modifiers, additives and fillers that meet the properties requested. Once a version is completed, prototyping and testing begins. This includes mechanical strength testing and other property-specific testing. From there, revision continues until the balance of all properties is met. Third-party testing ensues, and compliance/regulatory reviews and authoring takes place until finally a batch ticket is completed, and a marketing campaign begins.

CLEANER: How has your product line evolved to meet the needs of aging infrastructure and limited budgets?

Caputi: This is where we believe Epoxytec excels. Epoxytec has been transitioning its core product line from thinner traditional coatings to innovative ultra-high-build applied FRP-grade coatings that are specifically designed to bridge aging infrastructure using high-build applied and bonded lining often times at 125-250 mils. These more sophisticated applied lining products, what Epoxytec calls its CPP Series, are also enhanced to be applied direct-to-concrete, which saves time and money.

CLEANER: What differentiates your products from the competition?

Caputi: Our observation is that many of our competitors formulate with a variety of industries in mind, attempting to design a coating to not only fit water and wastewater, but also other industries like oil and gas, marine, etc. Although

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convenient, oftentimes subtle properties needed for a product that may fare better on steel in another industry, for example, lack some of the subtle characteristics that allow it to perform, bond and survive long-term in the water and wastewater environment. At Epoxytec, our formulation and R&D team only focuses on water and wastewater, and therefore all the testing and design of product is based on these conditions. This allows us a competitive edge when requiring performance with specific tolerance and bonding capability that exists in humid and acidic environments.

Furthermore, it is common to see competitors with a single solution. Based on various conditions, Epoxytec would argue that there is a place for advanced-polymer cements, 100% solid coatings and ultra-high-build structural-grade applied lining systems depending on the needs, conditions and expectations of the customer. We offer each solution to fit the need.

Epoxytec acknowledges that each industry has its own unique needs and that's why our MCOR brand came to existence. Epoxytec created its MCOR brand to meet the more specialized needs of other industries, leaving Epoxytec to focus specifically on the needs of water and wastewater industry. By separating the two, it has allowed the R&D focus to stay specific to each brand's needs.

CLEANER: What sort of training and support do you offer customers?

Caputi: Epoxytec runs a comprehensive DIY training program to help customers self-perform. The program with Epoxytec is carefully designed, as we supply products that contain no VOCs, and get started without requiring expensive equipment or complexity. A small crew with mixing drills, trowels and/or rollers can get started with basic manhole or lift station rehab and lining. If the crew wants higher output, for example, to carry over to plant structures, then they'd advance training to learn to spray ultra-high-build lining systems with our help and our spray vendor certification. It's a great program, and many customers have self-performed, typically sticking to easy-to-use, forgiving and 100% solids (no VOCs) manhole or lift station lining from our DIY program.

If you enroll into the Epoxytec DIY program, on-location training and support is conducted in a classroom and field demo setting with trainers and material on hand. Epoxytec takes the crew through material handling, surface preparation requirements, repair and resurfacing, and applied coating/lining. This typically involves waterblasting and troweling at first for smaller projects or lower output/less frequent mobilizations. Spraying is an option for high output needs; we'd then invite a spray vendor for a course on that equipment. This too would be a live demonstration and training. **c**

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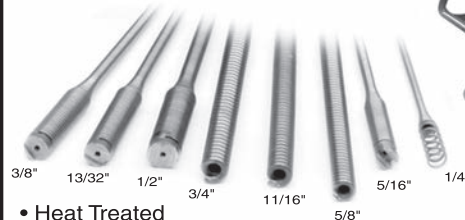
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MANHOLE INSPECTION AND REHABILITATION

By Craig Mandli

»» APPLICATOR

1 // TRENCHLESS SUPPLY MIDICOATER+

The **Midicoater+** from **Trenchless Supply** is a system capable of descaling, spraying and brushing. The machine also mixes epoxy at the spray head, which equates to virtually zero waste for unused epoxy and hoses. The unit features fast curing speeds (as quick as 45 minutes per coat) and has a built-in motor with a clutch that is capable of spinning up to 2,000 rpm. The clutch allows the descaling and brush coating to be performed. Its lightweight and compact footprint saves space and energy for the user. The unit has options for self-regulated heated hoses that plug directly into it. This allows for year-round use in varying weather conditions. It can be used to spray from 1.5- to 6-inch-diameter pipe. **424-257-0453; www.trenchlessupplyinc.com**

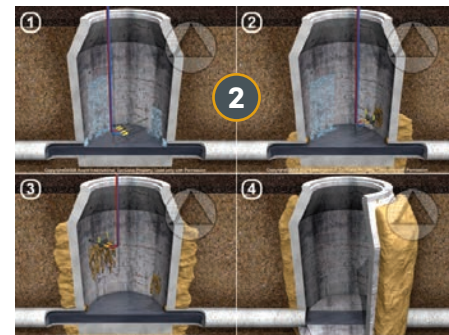


1

»» CHEMICAL GROUTS

2 // AVANTI INTERNATIONAL INJECTION GROUTS

Infiltration enters underground systems every day through defects or faulty joints in manholes, causing system capacity issues, overload at treatment plants and possible injury to the community. **Avanti International** injection grouts have historically proven to be an economic and long-term solution to combatting infiltration entering all areas of a collections system, including manholes. Injection grouts are engineered to stop leaks, stabilize soil and control groundwater, and be used in precast barrel joints, brick and concrete masonry units, pipe penetrations, vertical or horizontal cracks, void fill and pinholes. Each technique enables the technician to stop several leaks at once and helps to extend the life of the structure. **800-877-2570; www.avantigrout.com**



3 // PRIME RESINS SOAKUM OAKUM KIT

The **Soakum Oakum Kit** from **Prime Resins** is composed of a dry oakum soaked in a hydrophilic polymer solution. When wet and either packed or worked into a joint or crack, the resin will foam to form a flexible and tight joint to stop groundwater infiltration. It reacts with water and becomes a watertight rubber-like composite. The oakum cord gives strength and density to the composite and makes the application of the resin easier, especially when gushers are present. **800-321-7212; www.primeresins.com**



3

»» EPOXIES

4 // INFRASTRUCTURE REPAIR SYSTEMS INFRAGARD

Infragard concrete and manhole rehabilitation products from **Infrastructure Repair Systems** include Top Coat and Chim-Coat, which are nonhazardous ambient-cure epoxy systems for a small patch, entire manhole or retaining wall. This cost-effective solution requires no expensive equipment as it has an easy trowel-on application. They are corrosion-resistant and high strength, with an impermeable structural bond to the substrate or to almost any concrete or metal surface. Chim-Coat is engineered with a flexible feature that maintains adhesion while expanding or contracting with changing temperatures and traffic loads. **877-327-4216; www.irs.net**



4



5 // SOURCE ONE ENVIRONMENTAL QUADEX STRUCTURE GUARD EPOXY

Quadex Structure Guard, distributed by **Source One Environmental**, is a high-build epoxy coating formulated to provide long-term corrosion protection and structural enhancement for manholes, pump stations, treatment plants or any wastewater infrastructure subject to high levels of corrosion and/or abrasion in both municipal and industrial applications. It is also suitable for invert repairs. It can be trowel and/or spray applied, and is a 100% solids material with no VOCs and a fast set time. **877-450-3701; www.s1eonline.com**

»» LEAK LOCATION

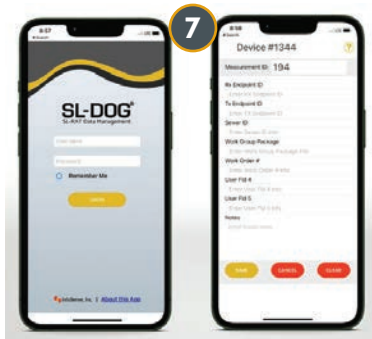
6 // CHERNE PLATE STYLE MANHOLE TESTERS

Cherne Plate Style Manhole Testers are an efficient, accurate, and cost-effective method of testing new, existing, and rehabilitated manholes. Their remote-inflation and monitoring system keeps users away from the danger zone. This product is designed to seal manhole cone surfaces and a wide range of manhole diameters. Included is a Neoprene gasket for a leak-free seal and a 20-inch hose with a gauge. They are available in six size variations and replacement kits. **800-843-7584; www.cherneid.com**



7 // INFOSENSE SL-DOG APP

The **Sewer Line Data OrGanizer (SL-DOG)** from **InfoSense** includes a mobile app with a subscription to the SL-DOG ecosystem and is supported by both Android and iOS. It allows operators to enhance their field data in real time while conducting acoustic assessments. The data automatically syncs to the portal and helps build a comprehensive data set to streamline and support the information generated by your Sewer Line Rapid Assessment Tool program. Users have five customizable user fields that can be used to track identifiable pipe characteristics such as a pipe segment number. The notes section can include observations, such as manhole condition, traffic levels, or location hazards. The systems allow for easy export to common file formats, like Excel, Google Earth or SHP. Hundreds of utilities use the app to enhance their SL-RAT measurements, allowing them to better streamline collections system maintenance operations. **877-747-3245; www.infosense.com**



»» MANHOLE CAMERAS

8 // CUES SPIDER MANHOLE SCANNER

The **SPiDER Manhole Scanner** from **CUES** is a wireless and color manhole inspection technology in a lightweight and compact form factor. It can calculate its position in the manhole shaft by using its sensor data to measure its incremental motion instead of the payout cable. It weighs less than 30 pounds and can be hand-carried to easements or other previously difficult-to-access sites. This wireless portability is possible because the processing computer and battery supply are built into the scanner. It collects millions of 3D measurements during each manhole inspection so the manhole can be measured to less than 5 mm accuracy. The point cloud can be used to evaluate the structural changes in a manhole before and after rehab. It also provides live-video stream and recorded MPG video, making it an ideal wireless tool for I&I studies. **800-327-7791; www.cuesinc.com**



9 // ENVIROSIGHT CLEVERSCAN

The **CleverScan** manhole scanner from **Envirosight** performs comprehensive, fully automated assessments of manhole condition in only a few minutes. It captures visual and dimensional data and presents the user with three powerful deliverables — a flat scan with detailed image data covering every inch of the manhole wall, a dense point cloud for 3D visualization of the manhole structure and easy CAD integration, and a virtual view inside the manhole, where an operator can pan, tilt and zoom to areas of interest. It operates with the press of a button, as the system's probe descends into the manhole, capturing image data using five HD cameras and building a dimensional profile using an array of lasers. An onboard rangefinder controls descent and determines when the scan is complete. Scan data is immediately transferred to a laptop running **CleverScan** software, where it can be viewed, annotated and shared. **866-936-8476; www.envirosight.com**



10 // ENZ USA CAMERA NOZZLE

The **Enz USA Camera Nozzle** has a modular design that allows universal use with all nozzle types, such as the eBomb or the eBulldog, and thus guarantees streak-free all-around cleaning in every application. The HD-ready resolution and 12 high-power LEDs deliver high-resolution video footage for quality control, documentation, and preliminary inspection. Data management is fully integrated into the system through the Wi-Fi interface and connection to the **Enz Cloud**. All manholes and channels are automatically mapped on **Google Maps** with the videos. The nozzle, which is simple, fast, and robust, increases productivity without any negative impact on the cleaning performance or quality. **877-369-8721; www.enz.com**



11 // RAPIDVIEW IBAK PANORAMO SI 4K

The **RapidView IBAK PANORAMO SI 4K** offers a max speed of 14 inches per second, so all the technician has to do is lower the unit down into the manhole, start the scan down the shaft, and then pull it back up. While doing so it captures three different views — a 360-degree perspective, an unfolded view, and a geometric view. It has powerful Xenon strobes along with two wide-angle digital cameras on the top and bottom that provide ultra-HD, 4K resolution images. With its unique ability to capture every inch of the manhole from multiple angles, it will keep employees safe, increase productivity and accuracy, and collect high-quality data so technicians never miss an observation. **800-656-4225; www.rapidview.com**



12 // SUBSITE ELECTRONICS TRANSTAR TRANSPORTER

The **TranStar Transporter** from **Subsite Electronics** is designed with a system approach, creating a powerful and versatile tractor. It is powered by two 90W motors that allow it to traverse various pipe conditions for more than 2,000 feet. The mainline reel's true freewheel capability system aids in minimal drag and zero resistance, allowing for the transporter to go farther in tough conditions. The freewheel system allows for rapid retrieval of the transporter once the inspection is complete. It offers full steering for optimal maneuverability in pipe with a diameter between 6 and 30 inches. The system approach pairs the tractor with the **TrakStar** camera, which has optional laser crack measurement and inclination for full 360-degree inspection capabilities. Thick side plates and a scratch-resistant window cover make the system durable for all types of inspection projects. **800-846-2713; www.subsite.com**





13

13 // USA BORESCOPIES PTZ 1080

The **PTZ 1080** pole-mounted manhole camera from **USA Borescopes** offers HD image quality for manhole inspections, silos, basins, tanks or other large open areas. A 20X optical zoom camera head and high-intensity LED lights are mounted to the pole that can offer up to 7 meters of length. The entire manhole camera package is affordable and is designed for ease of use. This camera system saves time and other dedicated resources that would normally be required when confined space permit activities are performed. It allows technicians to easily inspect pipes that are too damaged or impassable for a crawler, as the user can view an inspection area up to 300 feet away. This high-powered inspection camera makes it easy to inspect the sewer line from manhole to manhole to determine if cleaning or other repair activities are required. **931-362-3304; www.usaborescopes.com**



14

» MANHOLE LINER

14 // SPRAYROQ SPRAYWALL

SprayWall from **Sprayroq** is a rigid polyurethane material that provides structural integrity and infiltration control to underground infrastructure assets. It is a 2-1-ratio product that is applied via a heated, plural component spray system. It begins to gel in about eight seconds and is tack-free after two minutes. Within 30 to 60 minutes, the initial cure is complete and the structure is capable of accepting flow. The benefits include its structural capacity, which provides for protection against multiple load components within an underground asset including water, soil and traffic loads. In addition, it allows an asset owner to return a structure to service quickly, creating a huge savings on bypass cost, as well as decreasing the overall downtime for a given structure. It is also third-party tested and most recently has undergone significant successful evaluations through AASHTO. **205-957-0020; www.sprayroq.com**



15

» MANHOLE PARTS AND COMPONENTS

15 // CRETEX SPECIALTY PRODUCTS INTERNAL CHIMNEY SEALS

Creutex Specialty Products Internal Chimney Seals are mechanical, so there is no need to worry about surface adhesion or stopping active leaks prior to installation. The seals eliminate and prevent manhole chimney inflow. During wet weather, clear water enters the manhole through deteriorated and broken chimney joints, which may burden the collections system. The chimney seal has a 50-year design life and is available in four widths, allowing complete chimney coverage up to 24 vertical inches with a single seal. **800-345-3764; www.cretexseals.com**



16

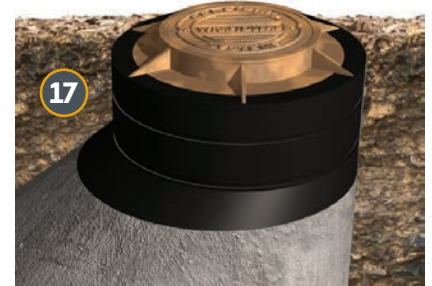
16 // LOGIBALL LATERAL TEST AND SEAL GROUTING PACKERS

Logiball Lateral Test and Seal Grouting Packers for trenchless rehabilitation of collections systems are used to stop infiltration at lateral connections and in lateral joints all from the mainline sewer access as far as 30 feet from the mainline. They are available for 6- through 144-inch pipe diameters. Packers for elliptical and box culverts are available. Flexible push/pull packers are used to seal the laterals from an aboveground access or laterals coming into manholes. Chemical grouting seals the soil around the injection points, preventing washout of backfill into the sewer and sealing off infiltration. **800-246-5988; www.logiball.com**

» SEALANTS

17 // CCI PIPING SYSTEMS WRAPIDSEAL MANHOLE ENCAPSULATION SYSTEM

The **WrapidSeal Manhole Encapsulation System** from **CCI Piping Systems** consists of an engineered primer and a wrap-around, heat-shrinkable sleeve designed to seal joints and prevent groundwater from entering a collections system. This material has a high-shrink membrane (70% stretch and 40% recovery) designed to shrink around any manhole profile. In addition, the high-tensile strength accommodates structural movement, while the tough backing resists soil stress and provides suitable abrasion resistance. It can be used for new construction or for the rehabilitation of existing manholes to control infiltration through joints and prevent deterioration, thus eliminating costly maintenance repairs and the added expense of treating groundwater. **800-867-2772; www.wrapidseal.com**



18 // OATEY HERCULES SHUTOUT

Hercules Shutout from **Oatey** is a safe, job site ready solution compatible with most manhole installations, designed to enhance existing seals by filling voids and defects with the manhole cover and seat. It creates a water barrier between surfaces, reducing the likelihood of corrosion and lubricating the manhole cover to allow for easier and safer removal. It applies easily on surfaces, requiring no measurements or planning before application. It is incompatible with revolutionary access design and some T-gasket manhole installations. **800-321-9532; www.oatey.com**



19 // SEALING SYSTEMS FLEX-SEAL 2.0

Flex-Seal 2.0 from **Sealing Systems** is an all-purpose sealant that adheres to many surfaces and has over 800% elongation. It is designed to prevent inflow and infiltration and to provide corrosion protection at the grade adjustment ring section or joint section of manholes and catch basins. It is 100% safe and Prop 65 compliant. The internal seal is manually applied using a paintbrush and the kit is designed to cover 12 vertical inches on a 27-inch-diameter manhole. **800-478-2054; www.ssisealingsystems.com**



20 // THE STRONG COMPANY STRONG-SEAL SYSTEM

The **Strong-Seal System** from **The Strong Company** offers a variety of cost-effective engineered cementitious products, specifically designed to rehabilitate municipal concrete and masonry structures and effectively stop inflow, infiltration and exfiltration. When spray-applied to a minimum of 1/2-inch thickness, the mortars are an impervious monolithic liner with compressive and flexural strengths exceeding that of the original structure. Both MS-2A and MS-2C are fiber-reinforced spray-applied cementitious mortars. Made with Portland cement, MS-2A is the most cost-effective solution for stopping infiltration and restoring structural integrity. MS-2C provides high early strengths and added corrosion protection in mild sulfide environments. High Performance Mix is a pure-fused calcium aluminate mortar that stops infiltration, restores structural integrity, and protects against microbiologically induced corrosion in sanitary sewer systems with harsh sulfide conditions (pH of 1.0 or greater). **800-982-8009; www.strongseal.com c**





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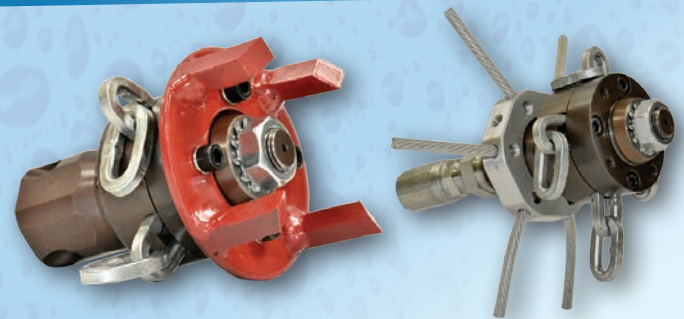
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MANHOLE INSPECTION AND REHABILITATION

// By Craig Mandli

CONTINUAL MANHOLE REHABILITATION HELPS UTILITY DISTRICT AVOID REPLACEMENTS



PROBLEM / Recently, Washington's Lakehaven Utility District restored 70 precast concrete manholes (860 vertical feet) that were exhibiting medium to heavy deterioration with exposed aggregate. Having completed various projects throughout the past three years for the Lakehaven Utility District, including 102 manhole rehabilitations, applicator Pro-Vac had the extensive experience necessary for a successful manhole rehabilitation.

SOLUTION / Prior to surface preparation, Pro-Vac took measures to protect the flow lines, then removed all material from the inside of the structures and pressure washed the interior. On the heavily deteriorated structures, **Epoxytec's Silicate**, a cementitious base coat, was applied to create a smooth finish. Once cured, the structure was pressure washed again, and **CPP Sprayliner** was applied at 120 mils.

RESULT / Spark tests and a pull test were used as a final measure to ensure proper application. Pro-Vac has been a part of Epoxytec's Certified Applicator Network since 2013 and was well prepared to assist the city in finding an epoxy coating solution that would provide protection against corrosion caused by high levels of hydrogen sulfide. 877-463-7699; www.epoxytec.com

MANHOLE CREW GETS MORE DONE IN LESS TIME



PROBLEM / Several years ago, the city of Lexington, Kentucky, decided it was no longer satisfied with deteriorating and sinking manholes. Officials searched for a new way to effectively repair and maintain the sewer manhole system. They needed a way to make the streets smoother, and ultimately, safer. The old method of using air hammer and saws was slow, labor intensive, costly and yielded poor results.

SOLUTION / The Mr. Manhole system transformed the way that Lexington repairs its manholes.

RESULT / The manhole crew supervisor for Lexington commented, "Mr. Manhole has sped up the process quite a bit. Before Mr. Manhole, we were doing three or four manholes a day. With Mr. Manhole, we're able to repair up to 10 per day. Start to finish with Mr. Manhole takes 20 to 25 minutes. The old way would take us 2 1/2 to 3 hours." 567-242-2221; www.mrmanhole.com

CODING SYSTEM CLEARS MANHOLE INSPECTIONS BACKLOG



PROBLEM / AIMS Companies operates out of 17 locations across the United States and provides a wide range of municipal wastewater services. Among its most popular offerings is manhole inspection, which has seen increased demand in recent years. As a result, project completion rates increased and datasets began to swell. “They were simply doing more in the field than we could do in the office,” says Shane Willis, data manager for AIMS.

SOLUTION / Unwilling to compromise on customer experience and outcomes, AIMS turned to **WinCan Sewermatics AI** to extend the bandwidth of its team, coding manhole inspections at a faster rate. It provides fast, AI-powered defect coding for pipeline and manhole inspection, providing clean, fully processed data faster than most inspection teams.

RESULT / TAIMS sent manhole inspection media to Sewermatics via WinCan’s online inspection platform, WinCan Web. From there, WinCan’s Sewermatics AI could scan manhole data, identifying defects and coding them according to MACP. With a final quality check from the Sewermatics team, the data could receive the stamp of approval before it was made available to AIMS once again via WinCan Web — fully coded and AI accurate. “We were way behind on our manhole inspection process,” recalls Willis, but with over 1,100 manhole inspections already sent to Sewermatics, AIMS is expecting to continue working with AI to ensure deliverables continue to reach customers on time. **877-626-8386; www.wincan.com c**



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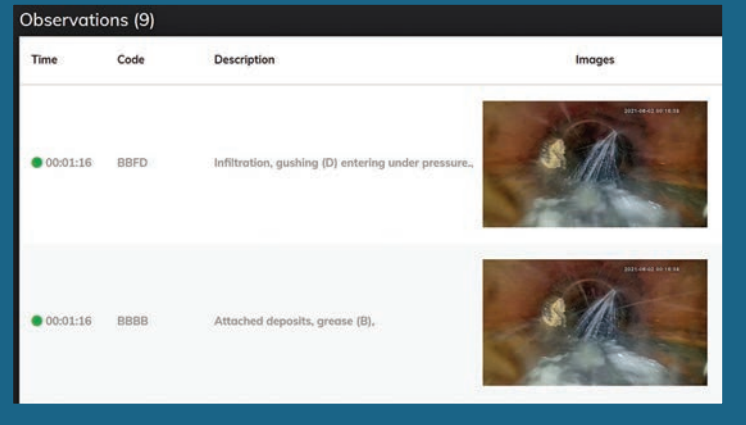
By Craig Mandli

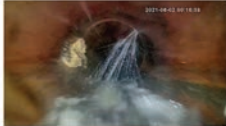

Pipeline cleaning and surveying can be time-consuming and labor intensive. But technological advancements are helping to streamline the process.

Sewer Robotics recently announced automatic defect coding powered by artificial intelligence, essentially taking the task out of the technician's hands. The technology makes it easier and more efficient to clean and survey large amounts of pipe and to report defects, even without human eyes reviewing the video footage.

The new technology is offered on the C70 video nozzle, a jetting nozzle for pipe cleaning with an integrated forward lighting and battery-powered, self-leveling, high-definition camera to record while cleaning pipes. It is made of durable stainless steel and is compatible with any jetting truck by threading it onto the hose. The integrated pressure-switch activates the lighting and starts the recording when the pressure is on, so the technician focuses on operating the jetting truck and cleaning the pipe.

After the pipe has been cleaned, the video can be downloaded for an instant visualization of the pipe status to help the operator select the right cleaning approach. Once the AI is "trained" on pipe defects with a huge set of coded defects, it automatically looks for patterns in the new video that match the patterns it learned from the coded defects. The AI then outputs a list of defects for the cleaning video, along with the required screenshot and defect code. This means that rather than review the whole video, the AI can inform the technician specifically



Time	Code	Description	Images
00:01:16	BBFD	Infiltration, gushing (D) entering under pressure.	
00:01:16	BBBB	Attached deposits, grease (B).	

that there is a defect, and classify the pipe segment according to priority of the defect. Reported defects can include grease blockages, roots, displaced joints, surface damage, fissures, cracks, settled deposits and intruding connections.

According to Sewer Robotics, by using sensors and data analytics, the AI "can help identify issues with storm, water and sewer systems before they cause problems". This means it can save organizations time and money by preventing damage to infrastructure and avoiding disruptions to service.

While the C70 video nozzle employing AI "will not entirely replace a detailed CCTV crawler inspection, it can quickly tell you if there are any defects in the pipe," according to Sewer Robotics. Depending on the reported defect and its priority, the right measures could be immediately implemented based on the results of the video. **717-658-4532; www.sewerrobotics.com**

1 // PATTERSON DAVIT CRANE AT WWETT BOOTH 4540

The Patterson Davit Crane will be in action at February's WWETT show, booth 4540. Designed for ease of use, durability and reliability, the cranes incorporate the highest quality components and finishes. The low-maintenance, easy-to-assemble design is portable so multiple locations can be serviced with a single piece of equipment, minimizing upfront investment. Additionally, the crane is designed with adequate reach to lift large loads within tight spaces, and a boom that can be adjusted to nearly 45 degrees to allow for clearance over obstructions such as handrails. It also comes standard with a hot-dipped galvanized finish, stainless steel hardware and steel sheaves, making it ideal for wet work environments. Available in 1/2- and 1-ton capacities, Patterson Davit Cranes are made in the U.S.A. and deliver on the company's promise of keeping employees safe and positively impacting your business's bottom line. **800-322-2018; www.pattersonmfg.com/davit-cranes**





2 // GENERAL PIPE CLEANERS SPEEDROOTER 92

The field-proven Speedrooter 92 from General Pipe Cleaners clears tree roots and other stubborn stoppages in 3- to 10-inch lines up to 100 feet long. General's durable design offers rugged reliability with optimal control, ease of use and maneuverability. Power cable feed drives retract cables up to 20 feet per minute, and a guide tube boosts cable efficiency and operator safety by reducing tangling, whipping and drag. Adjusting to different cable sizes can be done by turning the knob atop the feed: No screwdriver or special tool is required. The machine rides on 10-inch ball bearing tires. The adjustable-height, swept-back handle provides maximum maneuvering leverage. **800-245-6200; www.drainbrain.com**



3 // DYNAMIC 28-PIECE INSULATED TOOL SET

Each tool within Dynamic's new insulated tool set has been tested to 10,000 volts AC and is VDE certified to 1,000 DC in compliance with IEC 60900. The tool set includes a 1/2-inch drive ratchet with a selection of extensions and six-point metric sockets. It also contains open-ended metric wrenches, slotted screwdrivers, Phillips screwdrivers, side-cutting pliers, lineman's pliers and long-nose pliers. For secure storage, the set comes with a lockable case. The case has two foam organizers with labeled cutouts, which allows for easy tool identification, compliance with 5S work environments and added safeguarding against foreign object damage. **800-471-9473; www.shopdynamictools.com**



4 // ARIES INDUSTRIES OFFERS RINNOVISION RV-PRO 360 CAMERA SYSTEM

Aries Industries has expanded its products line with the addition of RinnoVision's RV-PRO 360 camera system. The RV-Pro 360 offers a fast, safe alternative to sending workers into manholes to conduct inspections. Equipped with a 360-degree virtual reality camera, the system provides real-time viewing of conditions inside pipes, manholes, tanks, tunnels, wells and other confined spaces. Lightweight and waterproof, the RV-Pro 360 can fit into pipes as small as 5 inches in diameter. A built-in, ultrabright 3,300-lumens light illuminates spaces being inspected. Its rechargeable battery lasts up to 4 1/2 hours. The camera is controlled via cell phone, or a tablet included with the unit. **800-234-7205; www.ariesindustries.com**



5 // SHERWIN-WILIAMS SHERPLATE 600 EPOXY LINING

Sherwin-Williams Protective & Marine's Sherplate™ 600 is a high-solids epoxy lining that's free of restricted solvents. The lining meets the new NSF/ANSI/CAN 600: Health Effects Evaluation and Criteria in Drinking Water standard, which will reduce the MCLs of xylene, toluene and ethylbenzene found within coating and lining products certified for potable water storage use. The Sherplate 600 epoxy phenalkamide lining does not contain xylene, toluene, ethylbenzene or oxsol. It can be sprayed using either single-leg or plural-component equipment. Sherplate 600 can be applied up to 16 mils dry film thickness per coat and up to a total thickness of 24 mils DFT. **800-524-5979; www.sherwin.com/protective c**



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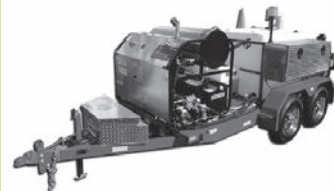
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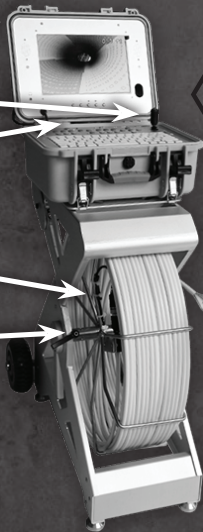
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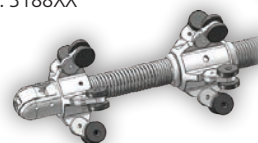
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