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By Marian Bond



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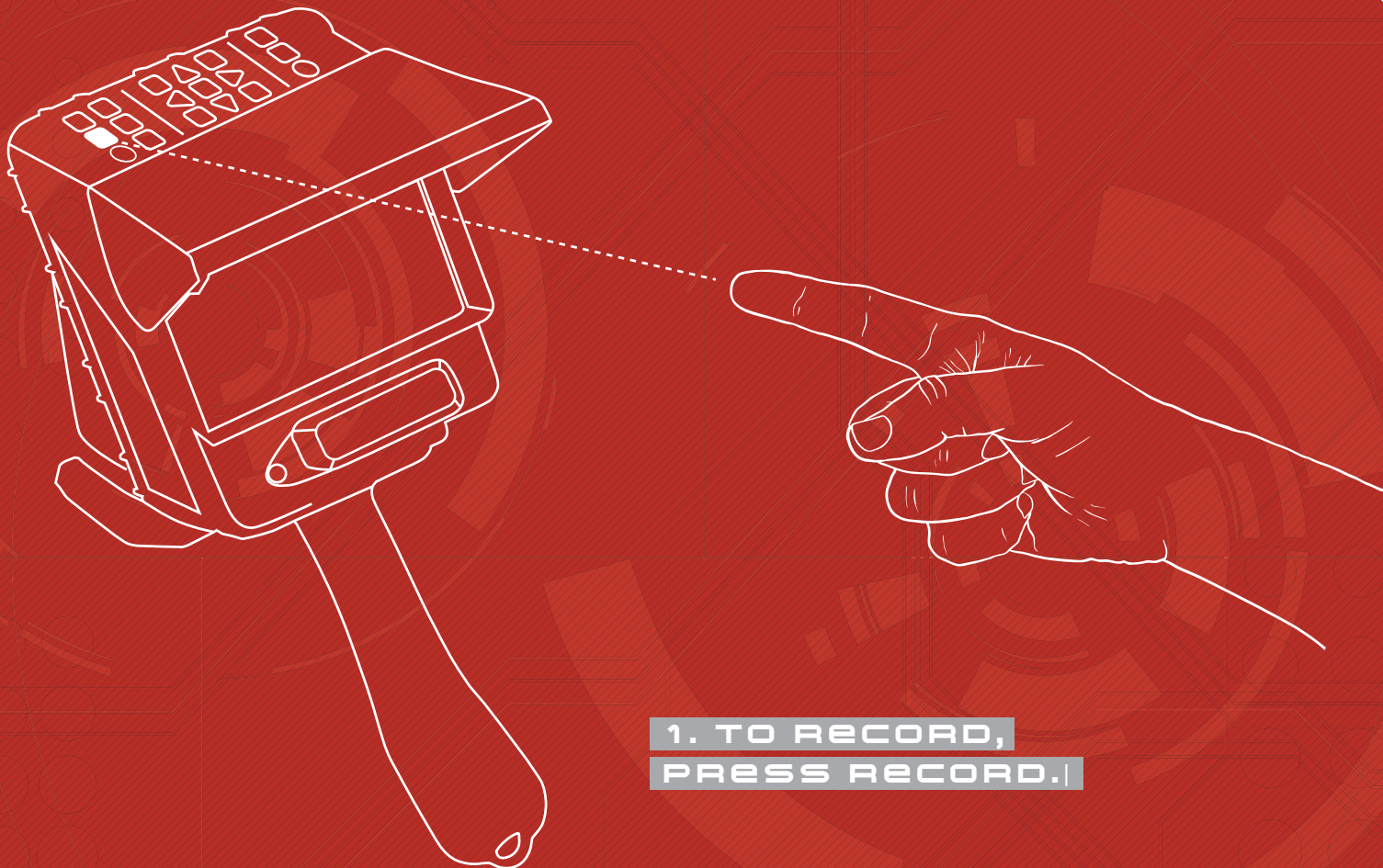
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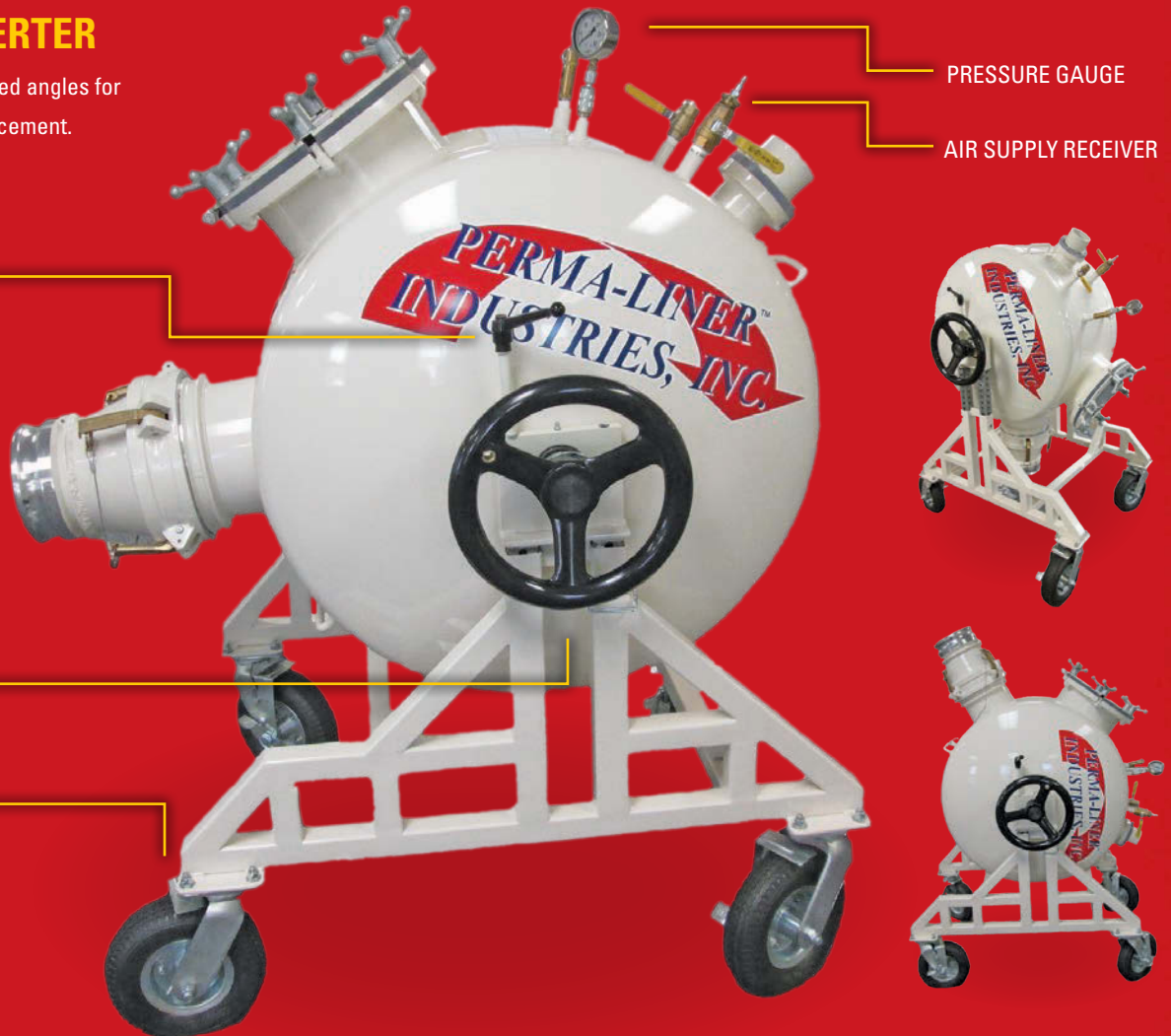
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Luke Laggis
editor@cleaner.com

Sad News in Chi-Town

DEATH CASTS A LIGHT ON THE NEED FOR VIGILANCE IN ALL THINGS SAFETY-RELATED

BY LUKE LAGGIS

I read the sad news of a sewer worker passing away on the job as I was wrapping up this issue. He was young and had a family, and it sounds like the accident could have been prevented.

According to a *Chicago Tribune* story, Gustavo Briceno's family says he woke up that morning feeling something bad was about to happen. That night, as he and another worker were inside a sewer doing work related to a relining project, he was swept away to his death by a surge of stormwater caused by heavy rains.

Briceno, 25, was employed by Kenny Construction. He and the other worker were in the 30-inch Chicago sewer line at about 8:30 p.m. Briceno had reportedly removed his harness to reach a nearby area when the rush of water carried him away. The other worker, still in his harness, was pulled to safety.

Briceno's body was found about two hours later, a block from where he had been working.

Accidents like this are a reason to pause and reevaluate your own safety practices. It's easy to get complacent. It's easy, in a situation you've encountered many times without issue, to think you'll be fine if you just take your harness off for a few minutes. But you never know when that time will come, when that surge will send you down the line one final time. It's sad. Don't ever take your safety for granted.

LOOKING INSIDE

This month's issue of *Cleaner* features stories on two interesting but very different companies.

ODYSSEY Environmental Services has been in business for six years, with a tight focus on cleaning and hydroexcavation. When they first opened for business they were serving the petroleum and chemical industries, but by the second year they had begun serving municipal clients.


The company was founded on a belief in environmental services, and the ODYSSEY team has worked hard to play their part in caring for the environment. About 70 percent of their work comes from mill and oil refinery work, oil rig cleaning and hydroexcavation, and the company does all it can to help its clients – and the environment – benefit from new technologies.

Allen's Electrical & Plumbing in Savannah, Ga., the other company profiled in this issue, is unique in that the company began in a different trade altogether. Barney Allen was an electrician, but his love for technology led him toward all the highly specialized equipment in the sewer and drain cleaning industry.

Soon, Allen's Electrical became Allen's Electrical & Plumbing as more and more services were added. First it was cameras in the mid-1980s, then jettors and eventually vac trucks. The company jumped into relining and pipe bursting in the late 1990s. Allen says he's always taken a bit of a gambler's approach to investing in new equipment and services, and it has paid off for his business.

The diversity of services has allowed Allen's to reach a much larger customer base and carefully tailor solutions to the specific problem.

Together, these businesses illustrate an interesting facet of the industry: There is no single right way to do things. Sometimes specialization can be the key to success; sometimes it's diversification. It's also one of the great things about this industry. Everyone has the ability to carve out their own niche and find success on their own terms.

I hope these stories help you chart the best course for your own business. Enjoy this month's issue. 



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Municipal Barriers

Have you considered breaking into municipal work? Find out how municipal contracts can benefit your business, and take some of the fear out of the process with these helpful tips from Tom Mullen at North American Pipeline Services.

>> www.cleaner.com/featured



Just Grout It

Grouting might not be the silver bullet for every infiltration situation, but it can save a ton of money when you have good pipes. So how do you choose a grouting system? Find out which equipment to use in this exclusive product feature.

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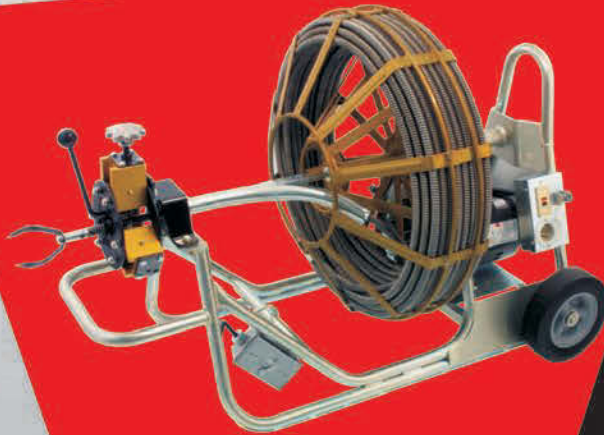


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Deep South TECHIE

CONTRACTOR THRIVES ON PUSHING THE LIMITS AND TAKING RISKS TO ESTABLISH NEW SERVICE MARKETS BY MARIAN BOND

Barney Allen Jr. admits he is something of a technology wonk. The business he started 38 years ago began primarily as an electrical shop, but his curiosity for new technology led him from wires to pipes, and soon he was acquiring the tools and equipment to handle everything from drain cleaning to pipe bursting.

Allen's Electrical & Plumbing operates in a primarily rural area 50 miles from Savannah, Ga., serving numerous small towns. Many of the smaller communities do not have sewer systems, so offering septic services as well as all other maintenance and repair options is essential for meeting the needs of their diverse customer base. The company also collects and processes grease at their 8-acre facility, where they have a 7,200-square-foot office, warehouse and shop.

It was in the mid-1980s that Allen began to notice the advances in technology and new procedures available to provide customers a better product, and to grow his company.

"The part I loved was the specialized tools, and being a part of it," Allen says. "Watching it grow, and getting ahead of things by taking a chance. We brought in cameras first, and later jetting. We included our vac trucks in the

profile

**ALLEN'S ELECTRICAL & PLUMBING,
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- OWNER: Barney Allen Jr.
- ESTABLISHED: 1975
- SERVICES: Plumbing, sewer and drain cleaning, relining, pipe bursting, CCTV, jetting, hydroexcavation, collecting and processing grease, electrical, septic, portable restrooms
- EMPLOYEES: 24
- CUSTOMERS: Residential, municipal, commercial/industrial

1980s as well, which allowed us to offer services including hydroexcavation to the municipalities, in addition to commercial and industrial operations. Our move into relining and pipe bursting came about in the late 1990s.

<< The team at Barney Allen Enterprises includes Barney, Blenda and their son, Brent Allen, along with Russ Dees, Tommy Haywood, Jean Haywood, Ryan Jones, Larry Emory, Pattie Pittman, Devon Groom, Matt Daughtry, Garick Donaldson, Jeffrey Rushing, Vickey Prince, Kelsey Moore, James Wright and Paul Parrish. (Photos by Kaylinn Gilstrap)

>> Barney Allen with his CUES OZ II inspection camera and laser inspection equipment.

This again shored up our commitment to the expanding clientele list.”

Allen says he has taken a bit of a gambler’s approach when it comes to making big investments in equipment for new services.

“We tried getting jobs first and then making the investment, but that didn’t work for us. We just had to dive in, buy the equipment and take a gamble. Once we had the equipment, we could go out, say we are here and we can do this.”

Barney Allen

“For a while when these new opportunities were out there, we tried taking a survey to see what our customers would like to have us include for their various needs,” he says. “We just didn’t get any response. We tried getting jobs first and then making the investment, but that didn’t work for us. We just had to dive in, buy the equipment and take a gamble. Once we had the equipment, we could go out, say we are here and we can do this.”

“It was darned scary – very scary to put out so much money when you are not assured of adding to the bottom line.”

Residential business accounts for approximately 75 percent of the work, with the balance in commercial/industrial and municipal. He notes they have underground contractor clients that keep them busy. A recent project involved excavating for a new manhole (32 feet deep, 6 feet in diameter) using hydroexcavation. They dug the hole, and the manhole was dropped in by the client.

TRENCH TACTICS

In the sewer systems they deal with, Allen finds a lot of clay and Orangeburg





Barney Allen views pipeline inspection footage with Granite software on his laptop.

THE STRATEGY KEY

In the years since his business has expanded, Barney Allen Jr. has had occasion to consider things and wonders if he is trying to cover too many bases, but when it comes to the pros and cons of the operation, he finds that when one area slows down, another seems to pick up.

"Sometimes we have to put a minus in the checkbook, but that might later become a plus in the checkbook," he says. "You might think of dropping or stopping something, but then again the way things are, it kind of keeps us out there and it all levels out. Our septic work, while it has slowed down, will often lead to something else for a customer. So it is a plus for us."

Looking back over his years in business, Allen says offering good customer service has been the most important element of his success, but a close second has been the diversity in services they offer and their ability to work with other contractors and solve problems. It's been a very positive business posture for Allen's.

As for promotion, they still primarily rely on word of mouth and have business sent their way from their residential, commercial and industrial, and municipal customers, along with contractor associates with whom they work.

"We always say we don't work against our competitors, we work with them," he says.

pipe, but some systems have been updated. Older clay pipe is often cracked and broken and Orangeburg is always a challenge. Infiltration can be heavy, with major root problems. He says 75 to 80 percent of sewer jobs involve root problems, which is where CCTV and jetting service come into play.

"We have an additional charge for use of the camera and the jetter," Allen says. "The customer will not always want to pay that extra fee, but if we have to go back a second time they will agree to those extra services."

His technicians would much prefer to use the camera and jetter as opposed to a cable machine. He says they are pretty good at selling the job, and customers are much happier with the outcome in the long run.

Allen says that if he had to single out his company's most important pieces of equipment, it would have to be the cameras and jetters. "They are essential," he says.

The company owns three CCTV vans, all outfitted with CUES equipment and Granite XP software with laser profiling. They also have a trailer set up with UEMSI software and a standard pan and tilt camera.

Allen's runs two trailer jetters, one from PipeHunter (4,000 psi/18 gpm) and another from US Jetting, also 4,000 psi/18 gpm.

Having the right nozzle is also a part of the puzzle, and Allen has relied on his suppliers, including StoneAge, USB - Sewer Equipment Corporation and Enz USA, to provide a variety of tools.

"You need the proper nozzle for each job," Allen says. "There's quite a difference between what you want for a storm line as opposed to a sewer line. It depends on the size of the line. It also depends on what you are trying to clean out - gravel, or sand, you need to use a different nozzle. It's

(continued)

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RIGHT: The Allen's crew sets up for a residential lateral lining job. **BELOW:** The liner emerges at the end of the pipe.



the same thing with roots. You need the right tools to get the job done properly, and having the technicians who are skilled in the use of all the equipment.”

BEEFING UP BENEFITS

The benefits of relining and pipe bursting quickly became obvious when Allen's introduced the services to their clientele. Word of mouth began to spread, and customers began realizing they had other options for sewer replacement and repair. Even though in some cases the old methods sometimes prevail, customers appreciate and are open to the options.

“You need the proper nozzle for each job. There's quite a difference between what you want for a storm line as opposed to a sewer line. It depends on the size of the line. It also depends on what you are trying to clean out.”

Barney Allen

“One recent residential customer had numerous decks surrounding the home as well as walkways,” Allen says. “To dig and replace would have meant tearing up everything. There was old Orangeburg pipe, and we used pipe bursting and didn't have to tear up anything in that yard. That was a very excited and happy customer. It was an example we could point to in promoting the equipment.

“Another project for a commercial plant involved relining an 834-foot sewer line that ran under the building, and we did 139 feet of 8-inch, and the balance in 6-inch pipe,” he continues. “We were there two days and the plant never had to close down. They were pretty happy.”

In Florida, Allen's is wrapping up an 8,000-foot relining job for an elite mobile home park, with manicured lawns and landscaping, following some detrimental water issues. They are working with 6-, 8- and 10-inch lines and expect to complete the job in a two-week period of time with six technicians

on the site. For this project they used Masterliner, but they also use lining equipment from Perma-Liner Industries.

Allen says the cities really appreciate the benefits of pipe bursting and relining, especially when it limits the time and expense of repairing roads and other structures. They typically burst 4-

to 6-inch lines and sometimes an 8-inch line, and they rely on equipment from Pow-R Mole Sales.

A recent municipal job called for bursting 50 feet of 4-inch sewer line under a street. They completed this job in half a day, and if it had been dig and replace it would have taken a day and a half.

“We were able to go in there and get the job done and not have to tear up the roads, and when we left you could not tell we had even been there,” Allen says. “Another plus is we are responsible for that area for a year. The cities love us.”

With residential customers, the length of a reline or pipe bursting job

(continued)

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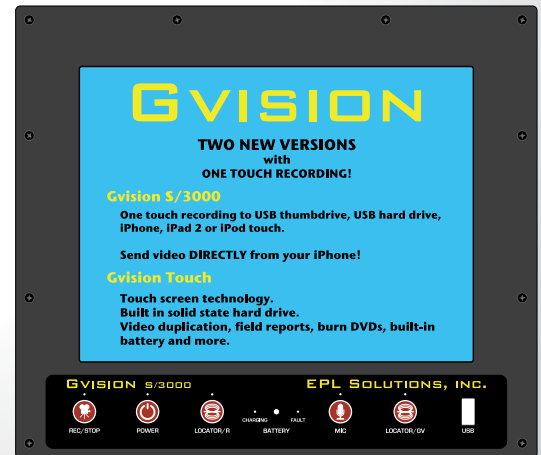
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will typically run from 100 to 150 feet, but sometimes they're as short as 50 feet. Commercial and municipal lines will generally be much longer.

With the homeowner, cost is always a concern. Some considerations have to do with the depth of the line to be replaced.

"I like to send our guys to the Pumper and Cleaner show. But I also like to work with them myself with hands-on training. We go over the equipment and some techniques, and how we like things done."

Barney Allen

"Our homeowner customers vary so much," he says. "If you have a customer who is not concerned about what happens in the yard, digging to replace might be an option. But then you have to be concerned about the depth of the line. A deep line – 6 or 8 or 10 feet – would mean shoring, and dealing with trench boxes and safety issues. With a depth of 3 or 4 feet and no concern about the yard, digging might be the best option.

"For the customer who does not want a blade of grass disturbed, the new technologies are the answer. You have different customers, different concerns.

It is just one of the things about any situation. You don't know what it will be until you go there and find out what they have – what kind of pipe, if there are roots or something else. It calls for a lot of techniques and you have to do a lot of thinking about how you will fix it in the most economical and satisfactory way. Then you need to do a lot of preparation. A lot of that."

Another key to problem solving has to do with the jurisdiction and what is required of the homeowner. In the town of Statesboro, with a population of 29,000, the homeowner is responsible for the lateral line from the house to the main. Other towns will require the residential customer to replace to the property line. This of course always plays into the advance planning.

Allen has appointed a key employee, Ken Low, who oversees the scheduling and all procedures with both relining and pipe bursting. His sons, Brent and Blake Allen, specialize in these procedures and all other aspects of the services offered at the company.

ASSET ASSESSMENT

Allen says he considers two primary elements in his hiring process. The first is dependability of the applicant – if they've spent six months on one job and one year on another, will this candidate stay with his company? Following up with referrals does not always yield a satisfactory outcome, as people tend to be reluctant to share anything about a former employee.

The other consideration is the skills this person will bring to the workplace. The company does provide a variety of training opportunities –



Technician James Wright uses a cable machine to clear a clogged drain in an apartment.



Barney Allen explains how the Turbo III cutter, made by USB - Sewer Equipment Corporation, works to clear pipes.

and they sometimes rely on trade schools.

"I like to send our guys to the Pumper and Cleaner show," Allen says. "But I also like to work with them myself with hands-on training. We go over the equipment and some techniques, and how we like things done. This works best. In some classes they teach just the basics. We like to do some teaching right out on the job. We've been there, done that, and learned a lot of stuff over the years –

sometimes the hard way."

Allen says that he likes to have his technicians specialize in the various services they perform, and in this way they can be more proficient and attend specific classes related to their area of expertise.

"Having this variety of solutions as well as highly trained technicians has been a tremendous asset and played a key role in the sustained growth we have experienced for our company. We take a lot of satisfaction in our diversity and our willingness to tackle the day-to-day problems, and the tougher ones as well." c

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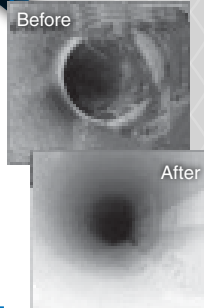
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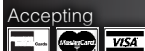
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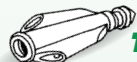
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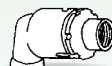
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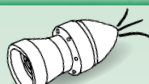
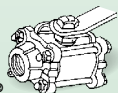
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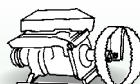
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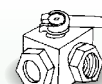
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Time Well Spent

TAKE THESE NUGGETS OF ADVICE FROM A PUMPER & CLEANER EXPO VETERAN TO HELP YOU GET THE MOST OUT OF YOUR TRIP TO INDY

BY JIM KNEISZEL

When I pull the car into downtown Indianapolis in February, it will mark the beginning of my 10th Pumper & Cleaner Environmental Expo International. It doesn't seem so long ago that I was on my first trip to the Expo in Nashville in 2005. I couldn't believe the enthusiasm I saw from the moment I stepped off the airplane.

"Vee love za pumpas," a woman with a thick German accent said, greeting me in the airport. From that airport worker to the hotel hospitality staff, and from the exhibitors to regular Expo attendees – there's a thrill and excitement every time the show rolls around. It's been the same in Nashville, Louisville and now my new personal favorite Expo venue in Indy.

After walking the exhibit hall for three days and while I'm making the car ride home to Wisconsin, my mind sometimes wanders to the advice I would give first-time Expo attendees to make their trip to the industry's biggest show more enjoyable. What tips could I impart that would help them get the most out of the trade show experience?

This year, I decided to jot down some of my ideas for first-timers and experienced Expo attendees alike and present them before the big event. I hope at least one of these nuggets from an Expo veteran will be helpful come Feb. 24-27 at the Indiana Convention Center.

GET COMFORTABLE

Hitting the Expo is more about endurance than speed. With four days (Education Day and three exhibit days), you have time to slow down and take it all in. But you should be prepared to feel refreshed and ready to go every morning. My first tip is to wear comfortable shoes and have two pairs so you can alternate by days. I buy one new pair of quality shoes every winter and break them in for Expo duty. You don't want tired, sore feet to take away from your experience. Also remember to drink plenty of water and bring along lip balm. The dry indoor air at a trade show can be dehydrating. Ample snacks and refreshments are available at the Expo. It's also good to step outside for some fresh air a few times a day. And though there's so much to do and see with your industry friends after show hours, be sure to get plenty of sleep. When you get up in the morning, have a good breakfast, as your mother always told you.

HAVE A SYSTEM TO COVER THE EXHIBIT HALL

The vast exhibit floor can be an imposing sight when you enter the Indiana Convention Center. One look at the show floor map can have a paralyzing effect on first-time visitors. A systematic approach to working the exhibit hall will ensure you don't miss a vendor you really wanted to see and keep you from passing unnecessarily through the same area multiple times. I recommend

<< When you're planning your time at the Expo, it can be helpful to take a systematic approach to working the exhibit floor. It will help you get to all the vendors you really want to see and keep you from passing unnecessarily through the same area multiple times. (Photography by Luke Laggis)

grabbing a map at the registration area and studying it before charging into the hall. Make a mark at all the booths that are "must-sees," including your existing vendors, all those that carry a product you're interested in purchasing or new technologies you're interested in considering for your business. Then divide the exhibitor map by the number of days you have at the Expo. If you'll be there all three days, draw a grid of three areas to cover. Alternately, you can color code the booth markings to make sure you hit the most important companies in the time you have allotted. The key is to organize your visit to accomplish all of your priorities.

Hitting the Expo is more about endurance than speed. With four days (Education Day and three exhibit days), you have time to slow down and take it all in. But you should be prepared to feel refreshed and ready to go every morning.

DON'T MISS OUT ON EDUCATION OPPORTUNITIES

Some visitors come just to see the exhibits, and with good reason. You won't see this extreme collection of environmental services equipment anywhere else. But if you ignore the education opportunities the Expo has to offer, you're leaving some professional value on the table. Education Day, on the first day of the Expo, features dozens of classes with some of the industry's best teachers and presenters. The seminars can often be used to satisfy ongoing training requirements from your state. Or you can attend a variety of marketing sessions that will help you promote and grow your business. Also, you may walk into a class that introduces you to the next service your business can provide to customers. Take time to read the seminar descriptions in the Expo guide and plan your day. And remember, a host of seminars and demonstrations continue in the days after Education Day.

SEE WHAT YOUR REGULAR VENDORS HAVE TO OFFER

You might say, "I already know my existing vendors and what they carry, so I should spend my time visiting new exhibits." That's true to a degree. But

relationship building has always been and will continue to be a big key to success for small businesses. You need face time with the rep that supplies your equipment and inventory of consumable items to make sure you are always top of mind with them in times of need. Also, an annual sit-down with your suppliers can push you to ask questions, inquire about bulk discounts and look for suggestions about how you can run the business more efficiently. The Expo is a great time to make suggestions for updates on vendors' products, learn about new innovations and hear about new applications for products you use as a matter of routine.

BUY IT OFF THE FLOOR

Do you drive to the Expo? If you typically fly, can you think of an advantage to driving to Indy this time around? The Expo floor is filled with the latest and best products some 500 exhibitors have to offer, and the manufacturers often want to sell displayed equipment so they don't have to transport it back home. That means you'll find good deals on exhibited equipment. I've talked to contractors who come to the Expo every year intending to purchase a new piece of equipment and either haul or drive it back home. They know exhibitors spec out show equipment with quality in mind and look for a discount on great new equipment. If you're out for customization, buying equipment off the show floor might not be the best approach for you, but if you see something you really like, you might be able to hook it up to your hitch and go after the event is over.

FIND A FRIEND AT THE ROUNDTABLE DISCUSSIONS

Many longtime visitors to the Expo have tapped into a little-known networking secret that has paid major dividends. They've met a contractor from another part of the country who operates the same kind of business, and now have a trusted friend to strategize with. I'm sure you would often like a friend in the industry to act as a sounding board for your ideas. But the last person you want to turn to is your direct competitor on the other side of town. That's where the Expo's roundtable discussions offer untold value. The breakfast roundtable event on Feb. 27 groups contractors by topic and type of company, creating a perfect opportunity for you to meet others facing similar business challenges. I've heard from many attendees who've forged lifelong friendships from these networking opportunities. These contractors keep in touch throughout the years and across the country, then meet up every year to enjoy the Expo experience together.

A FINAL WORD

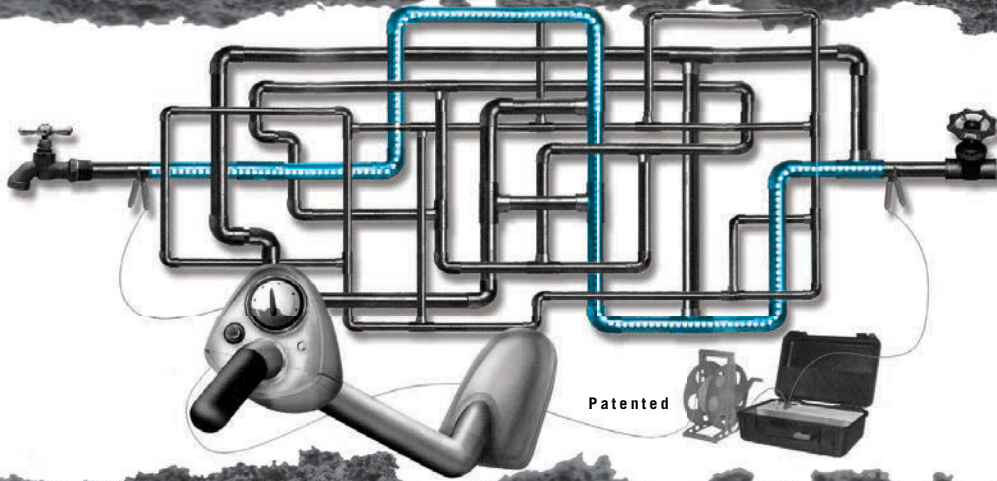
I hope these tips help you build a memorable and successful visit to the Pumper & Cleaner Expo. Do you want to talk some more? If so, you'll find me at the editor's booth near the registration area during the 2014 Expo. See you there! **C**



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Tech Perspective looks at technology-related issues and provides information and advice that cleaning professionals can apply to equipment selection and to their daily work in the field. Industry members are welcome to offer ideas for this column. Please direct them to editor Luke Laggis, editor@cleaner.com.



C.M.E. Services Owner Chuck Menkhaus helps feed a liner into a Perma-Verter inversion unit from Perma-Liner. (Photo by Mark Lyons)

Going Trenchless

CHOOSING THE RIGHT CIPP TECHNOLOGY REQUIRES CAREFUL CONSIDERATION OF CAPABILITIES AND THE NEEDS OF YOUR CUSTOMERS

BY CORY DELLENBACH

Over the past decade, the cost of CIPP rehabilitation has come down while the level of technology has risen. Shrinking budgets and the declining condition of underground infrastructure have forced municipal utilities to improve their infrastructure as cost-effectively as possible, and home and business owners are always looking to fix their problems with as little disruption as possible, so trenchless technologies are providing a growing market for contractors.

Lanzo Trenchless Technologies, a CIPP and infrastructure repair technologies contractor, provides cost-effective, minimally invasive alternatives to replacing failing infrastructure. The company has plenty of experience working with a variety of lining systems.

“It has been fun not being locked into a specific method because either we manufactured it or we were exclusively tied to it by license,” says Fred Tingberg, business development manager at Lanzo. “This has given us the latitude to serve the owner with the best fit for what would lend itself to a successful project. Having access to an array of methodologies gives us an excellent chance to provide for all performance- and site-specific criteria while meeting the client’s need for project completion and economy.”

Lanzo, with headquarters in Detroit, Mich., and Deerfield Beach, Fla., was profiled in the October 2012 issue of *Cleaner*. The company has done trenchless repair on more than 10 million linear feet of pipe in diameters as large as 120 inches throughout North America. Some of their most notable projects include lining an 18- to 15-inch transition sewer 20 feet below the Greektown Casino and Restaurant in Detroit, and 12-inch water transmission mains rated at 100 psi that served the Renaissance Center fountain in Detroit.

(continued)

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HIS LIFE



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Accurate Leak and Line technicians Chad Montgomery, left, and Clayton Vitellaro mix cast-in-place epoxy from Nu Flow. (Photo by Jim Reisch)



CIPP PREFERRED

With countless jobs under their belt, Tingberg says the system Lanzo Trenchless Technologies prefers to use is CIPP. “CIPP by far has demonstrated its ability to apply to the broadest range of repairs,” he says.

There are several CIPP technologies available, including nonwoven

“Having access to an array of methodologies gives us an excellent chance to provide for all performance- and site-specific criteria while meeting the client’s need for project completion and economy.”

Fred Tingberg

engineered tubes or liners with a wide array of thermosetting resins determined by the pipeline problem and surrounding environment. The technology can span a wide range of pipe diameters; renew pipes with bends, diameter changes or noncircular geometries; and can be used in gravity and pressure applications.

Sectional lining bladders cover smaller lengths for repair work. They’re available in different configurations and are resistant and reliable.

One issue with CIPP, however, is that weather has to be taken into consideration, according to Tingberg. “Sun and heat exposure must be totally anticipated with thermosetting solutions offered in any of the CIPP solutions.”

Cold weather will also affect a contractor’s ability to source water needed in just about any method of pipe lining as well, Tingberg says.

MANY METHODS

Inversion and pull-in-place lining are two installation methods with CIPP. Lining and curing times vary with each method and should be chosen based on the specific jobs.

There are many other installation methods as well. Sliplining methods include jacked pipe, pulled pipe or segmentally installed methods using fusion weld HDPE, fused PVC, fiberglass, reinforced plastic mortar, vitrified clay or polymer concrete.

“Catastrophic line breaks within our nation’s potable water transmission infrastructure as well as the inconvenience associated with open cut replacement of distribution water mains have caused prioritization of NSF 61 certified rehabilitation methods including sequential carbon fiber/epoxy matrix installation, as well as potable water CIPP,” Tingberg says.

Dynamic Drain certified CIPP installer Donald Libby, left, and CEO Nick Santoni assemble the MaxGun from MaxLiner on a pipeline rehabilitation job at the University of Virginia. (Photo by Joe Mahoney)

CHANGING TECHNOLOGY

Tingberg notes that there have been many recent imports of European technology that are bringing advances to the lining systems, including UV cure, remote epoxy installation and the growing capacity to perform larger and larger rehabilitations with manufactured “shooter” devices.

“Operators in Japan and Australia have contributed to downhole strip manufacturing methods, which are being implemented in greater scale in remote, large-diameter and difficult access applications,” Tingberg says.

He says one thing he sees in common with all the new technologies is the world’s growing emphasis on green technology.

“Reduced or simply no implementation of solvents such as Styrene is being considered by municipalities at a growing rate,” Tingberg says. “The typical European installation of CIPP today is either UV cured or remote epoxy, either of which would be considered green CIPP by my thinking.”

GOING GREEN

“The nation will place a large emphasis on green technologies as was done in Europe,” Tingberg says. “While this comes at a cost, it will be justified by higher quality products and lower social impact within the communities served. From a market standpoint there will be a larger participation by many within the construction and plumbing communities. Manufacturers will continue to advance their materials and methods to meet the demands of the marketplace.”

Tingberg sees many things coming up for the future of the industry, including the changing chemical characteristics of the sanitary systems. “They’ll become more demanding as the chemicals become more concentrated, requiring better resins and more corrosion-resistant materials.”

Tingberg also predicts water main rehabilitation will continue to thrive with better understanding of specific location of system defects in large-diameter PCCP, as well as greater acceptance of trenchless technologies in small-diameter water distribution systems.

“Technologically, I see greater advances in robotics, installation equipment, instrumentation and CCTV,” Tingberg says. **C**



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An expanded version of this story (“Choosing the Best Pipe Lining Systems”) with overviews of specific systems is available at www.cleaner.com.

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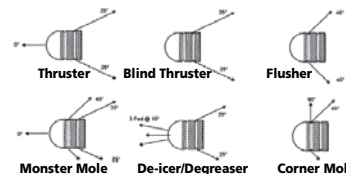
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BY MARIAN BOND
PHOTOGRAPHY BY AMY E. VOIGT

<< ODYSSEY Environmental Services crew members Matthew Raub, Phil Stratus and Aric Grueber clean out a municipal sewer drain in Campbell, Ohio.

>> Matthew Raub sprays the inside of a manhole on a municipal cleaning job.

ENVIRONMENTAL ISSUES TAKE PRIORITY FOR OHIO-BASED OPERATION DRAWING ON MANY YEARS' EXPERIENCE DEALING WITH INDUSTRIAL FACILITIES

Cleaning the environment has always been a priority for ODYSSEY Environmental Services President Steve Grueber. When ODYSSEY first opened for business they were serving the petroleum and chemical industries, removing dry bulk materials at steel mills, cleaning drains and oil spills around machines, and handling remediation during shutdowns. By 2008, they were serving municipal clients with hydroexcavation services, a technology ODYSSEY President Steve Grueber had been involved with for many years.

"We started this company initially because of our belief in environmental services, and also our past experience in the industry," Grueber says. "We are not trying to take over the entire environmental service business because there are so many people with knowledge about these things. It would be a shame to limit the possibilities."

Currently, about 30 percent of the company's business comes from cleaning, inspection and sewer work for municipal clients. Mill and oil refinery work accounts for 35 percent of the business, with another 20 percent in hydroexcavation and the remainder generated from oil rig cleaning.

"Many of these industrial plants we service are older facilities, but because of the natural gas boom and oil drilling, they have been working toward making environmental improvement," General Manager Andrew Grueber says. "We have been able to be with them in bringing facilities up to date so they can



utilize new technology in keeping the facility clean and in production, thus generating a quality product. There is however some new construction in steel mills in the regions we serve.

"Cleaning projects in these facilities will include environmental cleaning such as removing dry material from the tops of cranes, walls and beams," he says. "We also clean their drains, lagoons, floors, confined-space tanks and

"You could say that what we do at ODYSSEY is vacuum anything. If it needs to be removed from a space, we can handle it. In some cases if a truck cannot be used, we will use our labor force to bucket materials from one place to another."

Andrew Grueber

open tanks. This basically entails whatever environmental services they require that can be completed with the equipment we stock. You could say that what we do at ODYSSEY is vacuum anything. If it needs to be removed from a space, we can handle it. In some cases if a truck cannot be used, we will use our labor force to bucket materials from one place to another."

Remediation, which they do in-house, may call for removing tanks or underground pipelines, or rebuilding drainage basins and retaining walls utilizing their own equipment.

"On some sites we may have to add cables or railing to make the job safer," Grueber says. "With those type jobs we are sometimes up high and this requires a lot of setting up. Safety involves the crew knowing who of the men are involved on site. Our technicians have to know the proper way to safely pick things up. There is a strength factor – getting into a pipe, sending

profile

ODYSSEY ENVIRONMENTAL SERVICES, LLC, YOUNGSTOWN, OHIO

OWNER: Steve Grueber, Andrew Grueber, Larry Frangos Jr.

ESTABLISHED: 2007

CUSTOMERS: Steel mills, gas and oil refineries, municipalities

SERVICES: Hydroexcavation, drain cleaning and environmental cleanup

SERVICE AREA: Ohio, West Virginia and Pennsylvania

EMPLOYEES: 30





a camera down, jetting the line, operating a backhoe – getting objects out that may be causing a blockage in a pipeline. Performing many functions falls to the expertise and training of the crew.”

Because of the many challenges in these environments, safety, training and the proper equipment have been the keys to sustaining the company’s growth over the past six years.

In addition to serving the tri-state area, ODYSSEY has had jobs in Maine and Montana, as well as other eastern states.

FROM THE TOP DOWN

The corporate structure with ODYSSEY starts with the three owners, who are all thoroughly engaged. There are four supervisors reporting to the owners, who in turn each have a foreman with two or three technicians.

Finding candidates who fit the profile required to be a good technician can be a challenge. Their hiring process can entail from 15 to 30 initial interviews. Following the application and interview process, a candidate who seems qualified will have a 30-day trial period. The training starts with confined-space entry, but that’s just the beginning. OSHA courses can progress from 40 to 120 hours. Initial courses will get a trainee out on a job, but ODYSSEY

“With a newly projected job we want to look before getting involved. We visit the site and do a ‘job walk.’ Make sure we cover every aspect, and sometimes have multiple visits and talks with people. We want to know every aspect of the job.”

Andrew Grueber

wants technicians to be aware of all safety issues on any job site. Employees are certified to operate multiple types of equipment, and training includes fall protection and respiratory training, so the technician knows what mask to wear and what cartridges are needed.

OSHA courses are conducted by OSHA at ODYSSEY headquarters in Youngstown, Ohio. Their foremen take outside classes on the safe use of high-pressure water.

“We strive to hire people with high standards for safety, and those who aspire to be more proficient at multiple tasks,” Grueber says. “This has been a



<< ODYSSEY Environmental Services employees Guy Mohr, left, and Ron Stefanski vacuum dust generated from the production of clay bricks at Whitacre Greer Company in Alliance, Ohio.

>> Dan Wheeler vacuums old lead paint and sand from the Mill Creek Bridge in Youngstown, Ohio.



difficult bar to get over – finding those who have the experience, the ambitions we look for. It’s a substantial investment in employee training.”

The company promotes from within, so there is incentive for those who wish to advance.

READY TO RAMP UP

Grueber says that with any job they tackle, whether an existing customer or a new client, they never know exactly what they’ll find.

“It can end up being something we have not encountered before, and can mean problem solving we have to work through,” Grueber says. “This brings in the partners, and again our specialized operators and equipment, including the cameras we rent when we need that technology. This is what we enjoy – problem solving and helping the environment.”

The majority of new work coming their way involves a bidding process, and Grueber says they

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<< Ron Stefanski vacuums dust at the Whitacre Greer clay brick factory in Alliance, Ohio.

that capacity, and we see things go smoother and we can get things done. Sometimes when we come on a site as a subcontractor, we find we are able to assist the prime contractor in multiple aspects of environmental protection because of the many facets we have dealt with both within our company and in previous situations or experiences.”

Some customers have preventive maintenance contracts, which is very positive for ODYSSEY, but they still get from four to 10 emergency calls a month.

“In the long run it is more efficient for the company if they are on a preventive maintenance contract. They can provide a better quality product without having the downtime they may have if or when an emergency occurs,” Grueber says.

(continued)

RELYING ON TRUST AND KNOWLEDGE

Steve Grueber, managing member and president of ODYSSEY Environmental Services, says there were some important considerations in deciding whether to form the company with a partner or go it alone.

“Most important was trust, and knowing that my partner would have my back, that I could count on him,” Grueber says. “Larry Frangos was that man when he came on board in 2007. His background included working and coordinating with other companies. His son, Larry Frangos Jr., also joined the firm as a member of the crew at that time.”

When the senior Frangos left the firm in 2009 to pursue other interests, his son filled that important role in the company.

“What you want as a co-owner is trust as well as knowledge. These are the assets I counted on initially,” Grueber says. “But there should also be complementary skills as well. My son, Andrew, brought business management and IT experience when he joined us as a co-owner in 2011. Both Andrew and Larry Jr. worked their way up starting in 2007 from laborers to become co-owners.

“I realized that a team was a valuable tool because the industry is so vast. No one person has the exact knowledge or time to be able to deal with a multitude of projects.”

He says there is still some trial and error, but they handle matters by working together. “There is nothing available you can pull off a shelf that will always work. You have to deal with issues and develop as you go. What works for one company does not always work for others.

“Another key is to have patience with all members of your crew, including your top team, as well as others within the industry.

“Communication with every individual involved is the best path,” Grueber says. “You can have the best company in the world, but it is only the best because of the people you surround yourself with – your partners and the people who work for you and contribute. This also includes other family members, Aric Grueber and Anne Graff, all who have been a part of our grand experiment.

“ODYSSEY Environmental Services has pooled many years of experience serving our particular market, and have steered a young company into a proven asset in dealing with large and complex facilities seeking to comply with the challenges of a changing market and the varied demands of environmental issues.”

find that relationships develop over time and jobs become based on time and material.

“With a newly projected job we want to look before getting involved,” he says. “We visit the site and do a ‘job walk.’ Make sure we cover every aspect, and sometimes have multiple visits and talks with people. We want to know every aspect of the job.”

Grueber says they will have a pretty good benchmark as to the length of time it will take to solve a problem if they have past experience on a site, but there is no average because it is always based on the needs of the customer.

“We do a lot of project management,” Grueber says. “Sometimes we don’t even have our equipment there. We help other companies implement new machinery in older steel mills.”

Projects can be on a week-to-week basis, or last three months up to a year. The company will often serve as the prime contractor, but just as often as a subcontractor.

“We are now at a size where we would rather take on the entire contract,” Grueber says. “Our project management skills have positioned us to act in

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When it comes to disposal, ODYSSEY often works side by side with and in support of local family-owned companies for proper disposal of both hazardous and nonhazardous materials.

“We can go either way,” Grueber says. “We have the transportation trucks. With our equipment we have options to consider all possibilities for disposal. We recognize there are many small companies in our service area that are not only in business, but also want to have an impact on the cleanliness of the environment. We value these associations.”

“With our equipment we have options to consider all possibilities for disposal. We recognize there are many small companies in our service area that are not only in business, but also want to have an impact on the cleanliness of the environment. We value these associations.”

Andrew Grueber

READY TO RESPOND

ODYSSEY is prepared for emergency calls. They maintain a specialized team ready to respond on short notice 24/7. Trucks are always fueled and properly equipped to contend with any complaint.

Additional support vehicles can also be readied to respond quickly, and they can be anywhere within 30 miles of their shop in an hour under most circumstances. They are also capable of responding quickly to emergencies out of their satellite office in State College, Pa.

“They tell us what the emergency is,” Grueber says. “We can go on what we have experienced before, even though each emergency may likely be unique. We can evaluate based on previous situations we have dealt with.”

ODYSSEY operates in Youngstown out of a 6-acre facility, with an 80,000-square-foot warehouse and 5,000 square feet of office space. The satellite office in State College, Pa., is on a 1-acre site with a small office, which serves as a staging area for some projects.

BIG-TIME ROLLING STOCK

ODYSSEY operates with four vac trucks. Their GapVax hydroexcavation unit is built on a Volvo chassis with a 5,000 psi pressure washer pump, a 200-gallon freshwater tank and a 1-inch front reel. Jetting can vary from 3,500 psi/20 gpm to 8,000 psi/50 gpm.

Another GapVax unit on a Volvo chassis features a 5,300 cfm, 28-inch Hg



Odyssey Environmental Services owners, from left, Larry Frangos Jr., Aric Grueber, Steve Grueber and Andrew Grueber with their new GapVax HV-56 in front of their shop in Youngstown, Ohio.

vacuum pump and 17-cubic-yard debris body. Two other Volvo-based GapVax units can pull a pressure washer trailer to assist with cleaning when necessary but do not have an onboard water supply. All these units have carbon steel debris bodies.

There is also a Guzzler on a 1985 International with a 12-cubic-yard debris bed. That unit was reconditioned in 2009. Two pumper vac units with vane pumps capable of pulling liquids were recently added. One is a reconditioned 1985 Mack and the other 1995 Mack primarily used for hauling oil and brine water. Their third pump truck is a 2001 Volvo, also with a vane pump. Each has a carbon steel bed capable of hauling 4,000 gallons over the road.

Other vehicles include three specialty service trucks used for hauling miscellaneous loads and transporting equipment to and from the job sites.



ODYSSEY employee Robert Davis catches wastewater discharge at Everclear of Ohio in Austintown, Ohio.

There are three hot pressure washing trailers capable of hot and cold operation. A 1999 Ford L700 serves as a jetting truck with a 2,500-gallon tank, with capability similar to the jet truck.

THREE MAKES A TEAM

Larry Frangos Jr., a co-owner since 2009, says that the three partners are very much active in all aspects of the operation, from sales calls to getting down in the pits to work with technicians, all depending on the needs at the moment.

“Steve has been my mentor,” Frangos says. “He has taught me everything I know in this business. That is how I have gotten where I am with ODYSSEY.”

The partners meet monthly to go over customer relations and new contracts. Weekly meetings between the supervisors and foremen keep communication free and open, which is essential in such a highly demanding business.

Frangos adds that communicating with customers through follow-up calls and meetings has been a plus in building relationships.

“Whatever it takes,” he says. “We make it happen.” c

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Tell Your Story

DON'T LET BIDDING BE A MATTER OF COLD DATA AND THE BOTTOM LINE, BECAUSE IT'S MORE THAN NUMBERS

BY ROBERT MCKEE

The Boldt Company builds mammoth construction projects: power plants, hospitals, educational and industrial complexes. But before Boldt can build, it must win bids. In the past, its bid team, working in the time-honored way, pitted Boldt's numbers against its competitors' numbers. Their win rate was one in 10.

With some coaching, the bid team soon mastered the craft of turning data into drama, creating a story-driven bid entitled "Boldt Builds." This new pitch stars Boldt on a heroic quest for engineering excellence, fail-proof scheduling, transparent costings, sustainability and worker safety. The Boldt quest climaxes with an on-time, on-budget, owner-ready facility that's lawsuit-free and aesthetically inspiring. Thanks to Boldt's new bid-with-a-story strategy, the company's win rate jumped from 10 percent to 50 percent. In this year's ranking of America's top 100 construction companies, Boldt vaulted over 20 places.

What's true for Boldt is true for every company in the world today. Beyond sales and bids, business leaders must master the purpose-told story for all strategic tasks, not the least of which is branding. Brand equals reputation. As

Leading with a story is not a new tactic.
Study after study documents how well-told stories
fuse bonds of interest and empathy between teller
and listener that trigger money-making results.

goes your reputation, so goes your fate. If you don't control your story and tell it powerfully, others will tell it for you with less than flattering results. Fair or unfair, stories shape company futures.

Leading with a story is not a new tactic. Study after study documents how well-told stories fuse bonds of interest and empathy between teller and listener that trigger money-making results. Today's customer-centric firms use the heat of a story to weld themselves to their clients. Instead of wasting money on lavish marketing campaigns, media-savvy innovators lead with a story, make their client's experience a pleasure-filled story in itself, then let word-of-mouth do their marketing for them as satisfied customers take to social media to tell and retell their tale. This is priceless marketing ... literally. As a result, story-in-business is all the rage ... in the media.

But not in reality. The vast majority of corporate leaders working in this super-competitive world do not tell a story. They strategize with numbers, not narrative. Pinioned by excruciating demands on executive time and attention, few trust the story, and almost no one uses it to make critical decisions. Why? Why is the story strategy still more theory than practice?

Here are several reasons:

The tyranny of time. Data is quick. A flick of an eye to the bottom line – point made. But a powerfully persuasive, purpose-told story needs time. Purpose-told stories do far more than entertain. They trigger an action in the listener: a purchase, an investment, a job well done. A purpose-told story needs talent, imagination and time to conceive, create and hone to its audience. Time is a luxury few executives can afford.

The impersonality of data. We've all seen public speakers stumble over a story written for them by a speechwriter. They mumble because the tale is so foreign to their heart, their mouth won't let it out. To tell a story effectively, you must own it, feel it, spill your guts into it. Few executives have stories they care to spill.

Storytelling naiveté. Because people consume thousands of films, TV, plays and novels, they think they know how to tell stories. Because they've got a clip or two on YouTube, they think they've actually done it. But that's like thinking that because you sing along to your CDs, you can compose music. Fact: most people cannot tell a story worth a damn. More often than not, the "... and then and then and then ..." of the self-proclaimed raconteur is not a story at all but just a boring recitation of how he repainted his boat.

The rhetoric habit. From junior high through grad school and on into our careers, we have been trained to think and write from the specific to the universal. We habitually compose business presentations and reports following the principles of inductive logic. We build data, statistics, quotes and evidence point by point to a proof. But, as philosopher David Hume pointed out, inductive logic simply reflects the human penchant for taking relatively limited experiences to unreliable conclusions. This, nonetheless, is how we were trained; induction is our habit.

Business envies science. Science turns inductive logic into the Laws of Nature; business longs for an equally rigorous method to create the Laws of Commerce. Because storytelling behaves like art and not science, it seems too wobbly to trust.

Fear of embarrassment. Ever tell a joke and nobody laughed? Telling a story always risks embarrassment and who wants that?

The prudence/passion debate. Prudence conserves money; passion risks it. Have you ever noticed that when companies start losing market share they suddenly fixate on prudence and obsess over competition and compliance, whereas companies on the rise embrace passion and focus on

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complexity and change? On the other hand, undisciplined passion greases the track to bankruptcy. For that reason, the money-conscious personality distrusts emotions for fear they warp decision-making. The prudent executive might use an anecdote to open a meeting with a laugh, but calm must be restored before taking a vote. Inversely, detachment also distorts decision-making. Avoidance of emotion equals avoidance of humanity, and is therefore ruinous to leadership.

When the business mind steps back to take an all-inclusive view, it realizes that to make sense of this chaotic world, it needs a balance of both factuality and narrative. Data recites robotic recordings; only story speaks in a human voice. Data is meaningless until interpreted in story form. Stories radiate the deeply felt meanings that equip entrepreneurs to sell ideas, manufacturers to sell product, providers to sell service. Despite all the reasons listed above, the executive must overcome resistance to story and learn how to use it. Because if you can't tell, you can't sell. c

ABOUT THE AUTHOR

Robert McKee has given lectures to organizations as diverse as Microsoft, Nike, Hewlett-Packard, Time Warner and Wells Fargo Bank. For more information, please visit www.mckeestory.com or email main@mckeestory.com.

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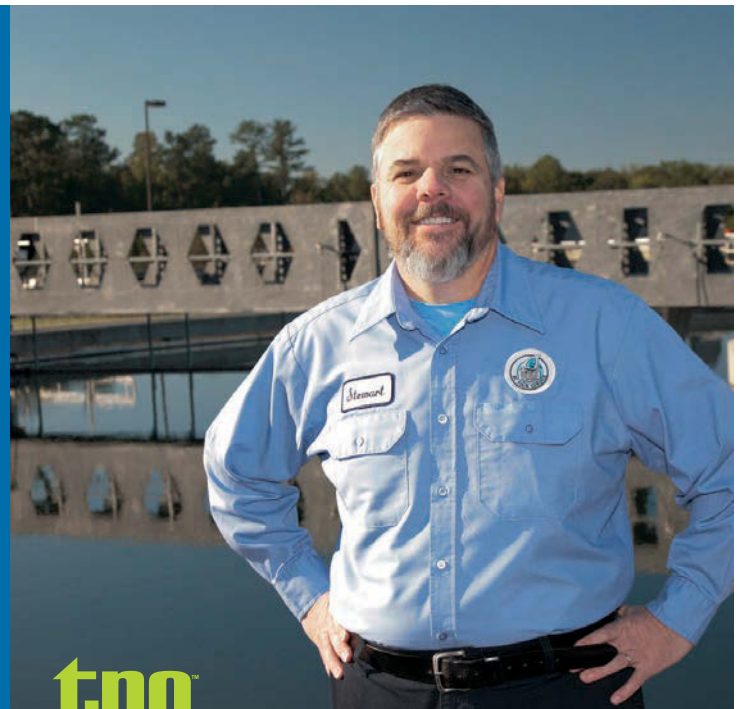
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- 8 a.m. Lessons Learned During Sewer Rehab on Public and Private Property
- 9:30 a.m. Pipe Bursting a Mature and Diverse Trenchless Technology
- 11 a.m. Resurgence of Chemical Grout Industry: Niche Business Opportunities
- 1:30 p.m. Chemical & Biological Control of F.O.G. in a 2,500-Mile Collection System
- 3 p.m. Lateral Rehabilitation, What's Available
- 4:30 p.m. Fiber Optic Temperature Sensing Technology for CIPP Cure Quality Control

NEHA NATIONAL ENVIRONMENTAL HEALTH ASSOCIATION

- 8 a.m. DEER in the Headlights
- 9:30 a.m. Basic Chemistry of Onsite Wastewater Treatment Systems
- 11 a.m. Making the Most of Experience: Training and Credentials for Wastewater Pros
- 1:30 p.m. Winners Communicate
- 3 p.m. Best Available New Technology
- 4:30 p.m. Best Available New Technology: How to Get Your Regulators on Board

NPCA NATIONAL PRECAST CONCRETE ASSOCIATION

- 3 p.m. 7 Things About Design, Installation & Maintenance of Precast Concrete Tanks
- 4:30 p.m. Grease Interceptors: A Slick Solution to a Greasy Problem

WJTA-IMCA WATERJET TECHNOLOGY ASSOCIATION INDUSTRIAL & MUNICIPAL CLEANING ASSOC.

- 8 a.m. Preparing for your First High Pressure Waterjetting Job
- 9:30 a.m. Vacuum Truck Operation and Safety
- 11 a.m. Hydroexcavation: Getting the Best Bang for Your Buck

SAFETY SESSION JOHN CONLEY

- 8 a.m. Preventing Tank Truck Rollovers

PSAI PORTABLE SANITATION ASSOCIATION INTERNATIONAL

- 9:30 a.m. State of Global Sanitation
- 11 a.m. Industry Image
- 1:30 p.m. Visions of the PSAI and the Education Initiative
- 3 p.m. What's New with OSHA Safety Requirements
- 4:30 p.m. An Introduction to Entering the Federal Government Contracting Arena

SALES & CUSTOMER SERVICE FRANK TACIAK

- 8 a.m. Be Always Profitable: Setting up the Sale
- 9:30 a.m. Be Always Profitable: Your Best Sales Presentation
- 11 a.m. Be Always Profitable: Servicing Your Sale
- 1:30 p.m. Be Always Profitable: Our Attitude to Success

NAWT NATIONAL ASSOCIATION OF WASTEWATER TECHNICIANS

- 8 a.m. CSA 2010 Implementation/Impact on Carriers/Drivers
- 9:30 a.m. DataQ's: When and How to Challenge
- 11 a.m. US DOT Update/Recent, Upcoming and Proposed Regulations
- 1:30 p.m. What is a Good Septic System Inspection?
- 3 p.m. The History of the PSMA Hydraulic Load Process
- 4:30 p.m. Improving Arizona's Inspection Program to Meet Modern Challenge

NOWRA NATIONAL ONSITE WASTEWATER RECYCLING ASSOCIATION

» SITE EVALUATION AND DESIGN OF ONSITE WASTEWATER TREATMENT SYSTEMS

- 8 a.m. Why Do We Care About Soils?
- 9:30 a.m. Design for Dummies
- 11 a.m. How to Do a Good Site Evaluation
- 1:30 p.m. Designing for Tough Sites
- 3 p.m. Wastewater and Soils: Clean It Up AND Get It To Go Away
- 4:30 p.m. Good Installation for Long-Term User Satisfaction

» FROM INSTALLATION TO MARKETING YOUR BUSINESS AND EVERYTHING IN BETWEEN

- 8 a.m. Look Out for Gophers! Taking Care of Mound Systems
- 9:30 a.m. ATU's - How to Make them Work
- 11 a.m. Rest Stops: A Case Study of Challenging Wastewater
- 1:30 p.m. Troubleshooting Onsite Systems
- 3 p.m. Installation Mistakes: How to Avoid and Fix Them
- 4:30 p.m. Marketing & Customer Service for Small Business Owners

SSCSC SOUTHERN SECTION COLLECTION SYSTEMS COMMITTEE

- 8 a.m. Personal Safety
- 9:30 a.m. Understanding the Nuances of a Quality CCTV Inspection Program
- 11 a.m. In the Trenches with Trenchless Pipeline Repair and Renewal
- 1:30 p.m. Nozzle Application: What, Why, Where, When and How?
- 3 p.m. Stop It! A Closer Look at Plugging
- 4:30 p.m. Getting the Most out of Your Combination Unit

BUSINESS TRAINING & MARKETING SUZAN CHIN

- 1:30 p.m. Marketing on a Shoestring
- 3 p.m. Getting Some... Brand Recognition
- 4:30 p.m. The Online Marketing Toolbox

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TUESDAY SESSIONS

February 25, 2014

SSCSC TRACK

- 8 a.m. Don't Fear the Shapefile
- 9:30 a.m. What's Important for Your Company; Is it Size, or Profit or Both?
- 11 a.m. 1 + 1 = 14: Cleaning and Inspection Equipment Working as an Entity

NAWT LAND APPLICATION TRACK

- 8 a.m. Be Ready to Land Apply
- 9:30 a.m. Soils and Cropping Systems
- 11 a.m. Land Application Rates and Nutrient Management

SAFETY COMPLIANCE TRACK

- 8 a.m. OSHA Confined Space and Fall Protection Untangled
- 9:30 a.m. Air Monitoring Application for the Liquid Waste Industry
- 11 a.m. T.B.D.

MUNICIPAL TRACK

- 8 a.m. Sealing - Take Control of Inflow & Infiltration in Manhole Sealing Systems
- 9:30 a.m. DC Water is Utilizing CIPP to Rehabilitate the Nation's Capital
- 11 a.m. Nozzle Explanation and Selections

INSTALLER TRACK

- 8 a.m. Septic Tank Bells and Whistles
- 9:30 a.m. Aeration Units for On-Site Septic Systems
- 11 a.m. Understanding ATU's, their Service Requirement, and Maintenance

GENERAL TRACK

- 8 a.m. Portable - The Best of Both Worlds - Liquids vs. Portion Control Deodorizers
- 9:30 a.m. Vacuum Loaders - Taking the Mystery out of Vacuum Truck Operation
- 11 a.m. DOT Compliance - The Value of DOT Certification for Vacuum Trucks

CUSTOMER SERVICE & EMPLOYEE DEVELOPMENT

- 8 a.m. Gen Y + Gen X + Baby Boomers = #@\$%???
- 9:30 a.m. Get and Keep the Best Co-Workers
- 11 a.m. Win, Win, Win in Residential Service Contracting

WEDNESDAY SESSIONS

February 26, 2014

BUSINESS TRACK

- 8 a.m. Improving Profitability through Tracking
- 9:30 a.m. How Paperless Operations Save Time and Money
- 11 a.m. Book More Calls - Wow More Customers

PORTABLE TRACK

- 8 a.m. Deodorizers and Making the Right Choices
- 9:30 a.m. Oh Shift! 6 Future Trends You Must Gear Up For to Compete and Succeed
- 11 a.m. Portable Restroom Service Units

MUNICIPAL TRACK

- 8 a.m. Sewer Cleaning 101
- 9:30 a.m. Underground Coatings - Restore Deteriorated Infrastructure
- 11 a.m. How Small Contractors Can Make Big Money Doing Manhole Rehabilitation

LIQUID WASTE TRACK

- 8 a.m. Right Sizing Your Pump System
- 9:30 a.m. Make More Money by Using a Biological Product with Your Services
- 11 a.m. Septic Drainfield Restoration

ADVERTISING & MARKETING TRACK

- 8 a.m. Advertising and Marketing for Service Companies
- 9:30 a.m. Getting Sales Personnel to Properly Price and Present
- 11 a.m. 7 Incredibly Effective Ways to Improve Your Sales



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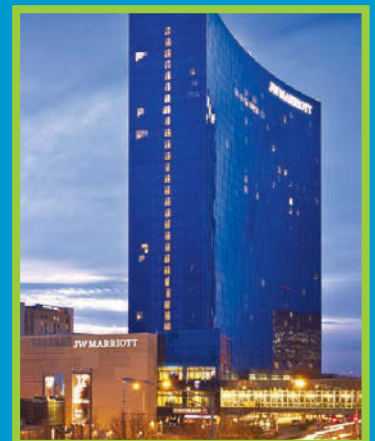
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Prepare for the Tax Man

THERE ARE SOME IMPORTANT CHANGES TO UNDERSTAND WHEN IT COMES TIME TO PAY UNCLE SAM FOR THE YEAR JUST ENDING

BY ERIK GUNN



Erik Gunn is a magazine writer and editor in Racine, Wis., where he operates Great Lakes Editorial Services. Readers may direct inquiries to him by contacting this publication at 800/257-7222 or emailing editor@cleaner.com.

We like to think of the end of the year as a festive occasion, but it's something else, too: the opening to tax season.

As you get ready to file your 2013 tax returns, neither you nor your financial advisor should forget about some specific provisions that will ensure you get the maximum savings allowed on your 2013 bill. And although you might not be happy about it, you also will need to know about changes that could increase your bill as well.

If you're reading this before New Year's Eve, you may still have time to take some actions that can benefit your operation's overall tax picture.

To review the most important issues that are likely to affect your taxes for 2013, I spoke with attorneys John Barry and Patricia Hintz. Barry and Hintz, who specialize in tax-related matters, are partners with Quarles & Brady, a Milwaukee-based corporate law firm with experience in a wide range of business areas.

As always, this column alone never substitutes for advice from a legal and financial professional who has a direct relationship with your business.

If your business bought new equipment in 2013 – and if your total purchases of equipment for the year did not exceed \$2 million – you can deduct up to \$500,000 of those purchase costs in their entirety on the 2013 taxes.

If you don't already work with a business lawyer, certified public accountant or other qualified professional to keep your business at its best, it's long past time for you to seek out that assistance.

EQUIPMENT EXPENSES

If your business made some substantial investment in new equipment, right now, 2013 is officially the last year that two particular provisions will be in place that could save you significant amounts of money.

The first is what tax pros call "Section 179 expensing." That refers to a special provision allowing companies to take a tax deduction for new equipment all at once in the year it is bought, rather than having to spread the deduction over several years as the asset depreciates.

If your business bought new equipment in 2013 – and if your total purchases of equipment for the year did not exceed \$2 million – you can deduct up to \$500,000 of those purchase costs in their entirety on the 2013 taxes, Barry says.

If you've spent more than \$500,000 on equipment, there's an alternative break available above that threshold. It's called "bonus depreciation."

Barry explains that even if you can't take the immediate deduction on the whole purchase that you can under the Section 179 provision, under bonus depreciation you can deduct immediately 50 percent of the cost of new equipment.

Next year, bonus depreciation is scheduled to go away completely, and the cap for the Section 179 provision would revert back to \$25,000 from \$500,000. It's possible that Congress will renew both of those breaks; the lawmakers have often done that with popular tax provisions, and they could even do it retroactively later in 2014. But you can't count on that, Hintz and Barry note.

BUILT-IN GAINS TAX

Another timely provision affects only businesses that have changed their corporate status in a particular way in the last decade or less: those that have converted from "C" corporations to "S" corporations.

Under the usual rules, an S corporation that converted from C in the last 10 years, then is sold to new owners, could have been "subject to a double tax when you sell the assets of the business," Barry says. To avoid that, the converting company would have had to wait 10 years after the conversion before it was sold to a new owner, in order to avoid two levels of taxes on the sale, he continues.

That waiting time was shortened a few years ago to five years. But that provision expires at the end of 2013, when the rules will revert to the old standard.

"If you know you may want to be selling the company in the next year, you may want to sell at the end of 2013 before the waiting time goes to a 10-year period," Barry says.

This particular issue, however, only affects operations that have converted from C corporations to S corporations in the relevant time period. Many operations in the service plumbing or septic pumping business are either LLCs or they have always been S corporations and so aren't affected.

But if yours is one of those businesses that converted to an S from a C, you'll want to make sure you understand this provision – especially if you hope to sell the business.

IT'S PERSONAL

Your personal taxes are also affected by your business. For one thing, if your business is an S corporation or an LLC, the income all flows to your personal bottom line to be taxed. And as a result of Congressional action early in 2013, that bottom line is going up for the wealthiest taxpayers.

Since 2001, the highest marginal federal tax rate has been 35 percent of income. In early 2013, however, Congress agreed to raise that to 39.6 percent for those people with an adjusted gross income (AGI) of more than \$400,000 if filing singly and \$450,000 if married and filing jointly.

Those same taxpayers will also pay more taxes on the profit from the sales of investments – commonly called capital gains. Capital gains tax rates have been at 15 percent for everyone; they will go up to 20 percent for the over \$400,000/single, \$450,000/married earners.

Two other provisions also raise taxes on the wealthiest – and in fact could push some people into those higher 39.6 percent categories.

For people whose AGI is more than \$300,000 if married and filing jointly or \$250,000 if single, itemized deductions will be reduced by 3 percent of their AGI. (The reduction is capped at 80 percent of the itemized deductions, though.) Affected deductions include those on mortgage interest, state and local taxes, and contributions to charity, among others.

Certain deductions – on investment interest expense, casualty losses, medical expenses or gambling losses – will not be affected by the reduction, however, Hintz says. (Also, deductions not taken on Schedule A of the Form 1040 income tax form are not affected, she says – so, for instance, deductions would not be reduced for business expenses that an independent contractor claims on Schedule C.)

The personal exemption is also phased out, starting with taxpayers with an AGI of more than \$300,000 (married/joint) or \$250,000 (single). For married taxpayers with an AGI of \$422,500 and single ones with an AGI of \$372,500, the personal exemption is completely eliminated.

HEALTH REFORM

The 2010 Patient Protection and Affordable Care Act takes full effect in 2014, and in the interim, some new tax-related provisions have been kicking in.

Hintz says a “Medicare surtax” of 0.9 percent on wages for people with an AGI of more than \$250,000 (joint) and \$200,000 (single) began in 2013.

Employers should make sure they have complied with this rule if they have any employees in those high brackets. Payroll services and bookkeeping software should reflect that change for calculating the withholding of highly paid employees.

But if your business pays you (or any individual employee) over those thresholds and you have not been withholding, get ready not just for an additional payment on your tax return – but a penalty as well.

Another ACA-related change doesn't directly affect your taxes, but if you pay employees and issue W-2s, it will affect that process. The law requires, beginning with 2013, that employers providing health benefits to workers list on their W-2 the dollar value of those benefits. The benefits and their value are not taxable, but the information is deemed important for employees, Hintz explains.

But ACA has provided some additional tax benefits to business owners, Hintz noted.

Since 2010, small businesses with 25 or fewer full-time-equivalent employees and providing health insurance to their workers have gotten a tax credit on the insurance premiums.

A tax credit, she notes, is different from a tax deduction, because while a deduction lowers your income for tax purposes, a credit actually takes money off of your business tax bill.

For 2013, the credit for qualifying employers is 35 percent of the money they paid for employee health insurance premiums. In 2014, the credit rises to 50 percent – but with a restriction: Only insurance plans purchased through the Small Business Health Options Marketplace will qualify for that credit.

One other element of the ACA that has worried some employers has been the requirement for companies with 50 or more full-time equivalents to provide health insurance or pay a penalty. The penalty, however, has been delayed one year until Jan. 1, 2015, Hintz pointed out. And it doesn't affect employers with fewer than 50 full-time workers in any case.

FOREWARNED, FOREARMED

There may be other particular tax changes that affect your unique circumstances. That's why, as noted earlier, it's critical for any business to have access to a top accounting and financial professional to whom it can turn for advice and help. But if you get on top of your tax returns now, you'll be that much more prepared for the year ahead. **c**

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Call Before You Dig

TAKING THE PROPER PRECAUTIONS BEFORE ANY EXCAVATION WORK WILL PROTECT UNDERGROUND UTILITIES AND YOUR CREW

BY JENNIFER WEST

It's pop quiz time, so pull out your pencils and notebooks and answer this question:

You're working on site to replace a residential sewer lateral and you need to dig a hole near the building to insert your pipe bursting equipment.

Do you:

- A) Talk to the homeowner and ask where lines enter the residence.
- B) Guess where the lines are. After all, you've been doing this for a while. You're no rookie.
- C) Call 811 and have the utility lines marked before starting the job. Put down your pencils. I hope you answered "C."

MAKE THE CALL

It's a simple enough premise: Make a call to 811, have utility lines marked and — only then — dig. And yet, in 2012, more than 230,000 underground utility events were submitted to the Common Ground Alliance, and of those, nearly 25 percent occurred because a locate request was not made.

Now, before we get buried in numbers and statistics, let's simplify this a little. That means, according to the newly released 2012 Damage Information Reporting Tool report, a lot of very preventable incidents are occurring. The good news? We're all doing better. Incident numbers are down for the third consecutive year. The bad news? We're not there yet. Just imagine how different those numbers would look if every homeowner, farmer, excavator and installer made a call for line location before even touching a shovel or backhoe.

Bob Kipp, the CGA president, thanks 811 awareness campaigns for the continuing reduction in incident numbers.

"It is more clear than ever that calling 811 before digging is the most critical step in preventing damage to underground facilities," Kipp says. "DIRT data has now demonstrated this for three years in a row."

LEARNING THE RISKS

During any excavation project, you have three major points of opportunity to eliminate problems. First, make sure you call 811, as we've already covered. Next, your request has to be fulfilled and the lines properly marked, and finally, you, as the digger, need to make sure you're using the right excavation techniques for the site. Be sure to take soil type and condition into account.

When a locate request is made by a digger, damage occurs less than 1 percent of the time. Now those are some pretty favorable odds that anyone should be excited about. It's in your hands.

When those three precautions are taken, you greatly reduce the risk of damage to underground utilities and to personnel.

And here's the really encouraging statistic that came out of this year's study: When a locate request is made by a digger, damage occurs less than 1 percent of the time. Now those are some pretty favorable odds that anyone should be excited about. It's in your hands. When you make the call to 811, you immediately protect the safety of your crew.

DEALING WITH EXEMPTIONS

For the first time ever, the DIRT report also addresses the effect of one-call notification exemptions. What the report found was that in states where exemptions are high, incident reports also increased. The recommendation: Continue to encourage calling for digger information even if an exemption exists.

It's that simple: Always call 811 before digging.

So if you're quizzed again on the importance of calling for digger information, remember that the answer is always "Call 811." Reducing utility damage and preventing injury is in your hands. Make the call. **c**

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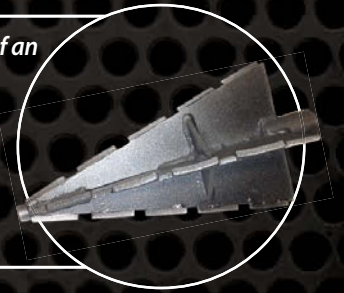


Counter: 229.3
Mfg. Deposits Attached Other?
Serial No: 12
From: AZ
To:
Remarks: CLEAN PRIOR TO CUTTING.



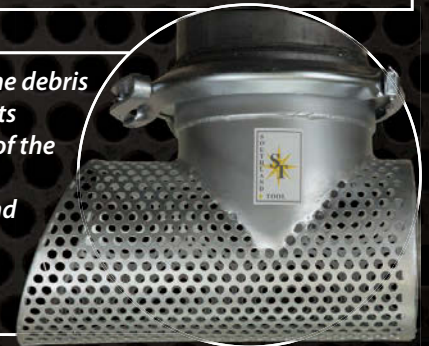
Counter: 229.3
Mfg. Deposits Attached Other?
Serial No: 12
From: AZ
To:
Remarks: CLEAN CORE.

"Calcium Cutter" Southland tool received these before and after photographs of an 8" line in California. The city used our Diamond Tipped Arrow Cutter as seen on the right. The cutter is for cleaning calcified grease and calcium carbonate deposits. The Arrow cutter attaches to your hydraulic motor and bores into the center of this "Rock Hard" problem and grinds it down until its "gone". Available in 6" to 12". Larger sizes available.



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New Lines

HAMMERHEAD'S COMPOSITE INVERSION DRUMS
MAKE NORTH AMERICAN DEBUT AT EXPO

BY ED WODALSKI

HammerHead Trenchless Equipment introduced the North American market to its new line of HydraLiner composite inversion drums as well as its complete line of cured-in-place pipe lining equipment and accessories at the Expo in February.

“The unique thing about offering inversion drums made out of composites is we’re able to reduce the weight by about 31 percent over traditional drums, but at the same time increase capacity by about 35 percent,” says Ryan Boldan, lateral system product manager for HammerHead. “Increased capacity allows for longer shots and more working room inside the drums. It just makes life easier for the contractor and expands what they can accomplish.”



Ryan Boldan (left), lateral system product manager for HammerHead Trenchless Equipment, explains the benefits of its new line of HydraLiner composite inversion drums. (Photography by Ed Wodalski.)

Boldan says the composite drums also can withstand the higher temperatures needed for steam curing; they’re corrosion free, easily maintained and seamless.

“When we were launching this and getting ready for Pumper, we wanted to have some unique features that were truly ground-breaking in the industry, and the composite drum is one of those, for sure.”

“When we were launching this and getting ready for Pumper, we wanted to have some unique features that were truly ground-breaking in the industry, and the composite drum is one of those, for sure.”

Ryan Boldan

HammerHead’s steel and composite inversion drums are available in five models, from the 61-pound Mini-Hydra (23.5 inches wide, 29.5 inches long and 32.1 inches high) for basements and confined spaces to the 209-pound steel Super-Hydra (41.5 inches wide, 60.2 inches long and 57.9 inches high) that can carry up to 492 feet of liner.

“The addition of our new CIPP product line provides our customers with a complete trenchless solution for both replacing and rehabilitating lateral lines,” Boldan says.

Along with the two composite drums, HammerHead also unveiled a hot water boiler, steam generator, wet-out tables, epoxies and accessories.

HammerHead’s two styles of lining, designed for ambient, hot water or steam curing, include the HHFlex and HHPVC. The HHFlex liner is available in sizes from 2 to 8 inches and will handle 22-, 45- and 90-degree turns, while HHPVC is designed for 4- to 12-inch diameter pipe.

Boldan says the company’s new lining products were well received, generating a system sale at the show and numerous leads. “We got good feedback on the composite drums, for sure.” 800/331-6653; www.hammerheadtrenchless.com. c

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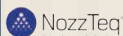
COMPANY	Name of Nozzle	Application	Pipe Diameter	Flow Rate (GPM)	Max Operating Pressure (PSI)	Weight	# of Avail. Front Jets	# of Avail. Rear Jets	Hose Size/Connecting Thread
See ad page 96 Advanced Infrastructure Technologies 3055 Kashiwa St., Torrance, CA 90505 800-992-0222 • 310-534-4000 • (f) 310-534-4020 www.advancedworld.com sales@advancedworld.com	Radial - Standard Cleaning	Small line cleaning, powerful lateral cleaner	2" - 6"	7 to 20	1,500 - 4,000	4 oz.	1	6	1/2"
	Grenade	Stable cleaner for sewer mains w/ debris, aggressive thrust action	6" - 24"	50 to 100	1,500 - 3,000	7 lbs.		10	3/4", 1", 1-1/4"
	Phantom Grenade	Lightweight alloy construction allows for wider jet angle = more power to the pipe wall	8" - 24"	50-100	1,500 - 3,000	5 lbs.		8	3/4" - 1"
	Chisel Blockage Nozzle	The standard in blockage clearing	2" - 24"	7 to 100	1,500 - 4,000	2 oz.	4	6	3/8" - 1/2" - 3/4" - 1, 1-1/1
	Aquadrill	Great blockage clearing with extra large front jet that "warbles" randomly	2" - 18"	11 to 80	1,500	2 oz.	1	6	1/2" - 3/4" - 1"
	Torpedo Pulling Nozzle	The pulling champion nozzle, for long runs, hills	2" - 24"	14 to 80	1,500	2 oz.		8	1/2" - 3/4" - 1"
	Fluke, bottom cleaner	Superior silt & debris removal in an economical package	6" - 36"	16 to 100	1,500	17 lbs.		10	1/2" - 3/4" - 1"
	Bulldozer, sediment & debris	The ultimate bottom cleaner, features swivel connection and roll cage	12" and Up	50 to 100	1,500 - 3,000	15 lbs. to 82 lbs.			
	Spider 60 & 80 chain cutter	When jets alone cannot clear your roots chains	6" - 12"	50 to 100	1,500 - 3,000	18 oz.		6	3/4" & 1"
 All Jetting Technologies, Inc. 2740 Martin Downs Blvd., Ste. 318, Palm City, FL 34990 772-286-1218 • (f) 772-286-0069 www.alljetting.com • info@alljetting.com	1/4" - 28 UNF Sapphire Nozzles and Plugs	Ultra High Pressure waterjetting up to 55,000 PSI	NA	3 to 30	20,000 - 55,000		1		
	3/8" - 24 UNF Sapphire Nozzles and Plug	Ultra High Pressure NA waterjetting up to 55,000 PSI	NA	3 to 30	20,000 - 55,000		1		
	7/16" - 20 UNF Sapphire Nozzles and Plugs	Ultra High Pressure waterjetting up to 55,000 PSI	NA	3 to 30	20,000 - 55,000		1		
	Long Stem Sapphire, 60° seating angle	Ultra High Pressure waterjetting up to 55,000 PSI	NA	3 to 30	20,000 - 55,000		1		
	M10 x 1.5 thread - 5MM Hex Key	Ultra High Pressure waterjetting up to 55,000 PSI	NA	3 to 30	20,000 - 55,000		1		
	5/16" Hack with 3/8" - 24 UNF	Ultra High Pressure waterjetting up to 55,000 PSI	NA	3 to 30	20,000 - 55,000		1		
See ad page 41 Amazing Machinery, Inc. 2160 S Lee Hwy., Cleveland, TN 37311 800-504-7435 • 423-472-2527 • (f) 800-504-7436 www.amazingmachinery.com sales@amazingmachinery.com	Deicer-Degreaser	Removing Ice & Grease	2" - 24"	2 to 80	500 - 4,000	0.9 oz. to 5.6 oz.	3	6	1/8" - 1/4" - 3/8" - 1/2" - 3/4"
	Spin-Jet	Flushing & Finishing	2" - 24"	2 to 80	500 - 4,000	1.2 oz. to 8.6 oz.		6	1/8" - 1/4" - 3/8" - 1/2" - 3/4"
See ad page 34 Aqua Mole Technologies Inc. 11929 Abbey Rd., Unit C, North Royalton, OH 44133 800-457-2782 • 440-237-2984 • (f) 440-237-2987 www.aquamole.com • aquamole@sbcglobal.net	Blind Truster	General Purpose Cleaning	2" and Up	2.5 to 80	1,500 - 10,000	0.3 oz. to 1.3 lbs.		4-6 or 8	1/8" to 1"
	Corner	Assists Through Corner and Tees	2" and Up	2.5 to 80	1,500 - 10,000	0.3 oz. to 1.3 lbs.		4	1/8" to 1"
	Degreaser/De-Icer	Forward Cleaning or Pushing	2" and Up	2.5 to 80	1,500 - 10,000	0.3 oz. to 1.3 lbs.	3	6	1/8" to 1"
	Flusher	General Purpose Cleaning	2" and Up	2.5 to 80	1,500 - 10,000	0.3 oz. to 1.3 lbs.		6 or 8	1/8" to 1"
	High Thrust Degreaser /De-Icer	Forward Cleaning or Pushing	2" and Up	2.5 to 80	1,500 - 10,000	0.3 oz. to 1.3 lbs.	3	6	1/8" to 1"
	Monster	Dual Angle for Thrust and Flush	2" and Up	2.5 to 80	1,500 - 10,000	0.3 oz. to 1.3 lbs.	1	6 or 8	1/8" to 1"
	RJ Spinners (Rotor Jet)	360° Cleaning Coverage	3" and Up	2.5 to 60	1,500 - 10,000	0.63 oz. to 11 oz.		4	1/8" to 3/4"
	Super Thruster	Super Max Pulling/Penetrating	2" and Up	2.5 to 18	1,500 - 10,000	0.3 oz. to 1.5 oz.	1	3 to 6	1/8" to 1/2"
	Sweeper	Superior Cleaning	2" and Up	2.5 to 80	1,500 - 10,000	0.3 oz. to 1.3 lbs.		6 or 8	1/8" to 1"
	Thruster	Max. Pulling to Penetrate Plugged Lines	2" and Up	2.5 to 80	1,500 - 10,000	0.3 oz. to 1.3 lbs.	1	3-4 or 6	1/8" to 1"

Nozzle Company Directory 2013


COMPANY	Name of Nozzle	Application	Pipe Diameter	Flow Rate (GPM)	Max Operating Pressure (PSI)	Weight	# of Avail. Front Jets	# of Avail. Rear Jets	Hose Size/Connecting Thread	
 Arthur Products Co. 1140 Industrial Pky., Medina, OH 44256 800-322-0510 • 330-725-4905 • (f) 330-722-2698 www.arthurproducts.com • apo@apclsq.com See ad page 58	Round Nose (Button)	General Cleaning/Cornering	1" - 24"	1.7 to 80	1,200-15,000	varies	customer specific	customer specific	1/16" to 1"	
	Round Nose Hex	Penetration and or Flushing	1" - 24"	1.7 to 80	1,200-15,000	varies	customer specific	customer specific	1/8" to 1"	
	Evaporator (EV)	De-icer Degreaser	1" - 24"	1.7 to 80	1,200-15,000	varies	customer specific	customer specific	1/16" to 1"	
	Impactor (LT)	Heavily Fouled Pipes	1" - 24"	1.7 to 80	1,200-15,000	varies	customer specific	customer specific	1/16" to 3/4"	
	PX Revolver	Full 360° rotation for cleaning & polishing	1" - 24"	1.7 to 80	1,200-15,000	varies	optional	customer specific	1/16" to 3/4"	
	Mega-Thruster PX Revolver	Full 360° rotation for cleaning & polishing, designed for long runs	1" - 24"	1.7 to 80	1,200 - 10,000	varies	2 side 2 flusher	3	3/8" - 1/2"	
	Mini-Mole	Small tube cleaning	.200" - 1"	1.7 to 20	1,200 - 10,000	varies	customer specific	customer specific	Special tapered thread	
	Rodder Jets	General tube cleaning	.250" - 1"	1.7 to 40	1,200 - 15,000	varies	customer specific	customer specific	Various male thread sizes	
	Cnt-R-KUT™ Basic Kit	Deicing/Degreasing, Penetration, Flushing	2" - 12"	2.5 to 80	2,000-10,000	varies	customer specific	customer specific	3/8" - 1/2"	
	Cnt-R-KUT™ Elite Kit	Roots and other blockages	2" - 12"	4 to 80	2,000-10,000	varies	customer specific	customer specific	3/8" - 1/2"	
See ad page 28	Chempure Products Corp. PO Box 740, Bolivar, OH 44612 800-288-7873 • 330-874-4300 • (f) 330-874-4448 www.chempure.com • lloyd@chempure.com	Root Rat	Root & Enc	2" - 30"	4 to 150	0.5 lbs. to 5 lbs.				
See ad page 24	Cloverleaf Tool Co. PO Box 1338, Tallahassee, FL 32370 800-365-6583 • 941-739-0707 • (f) 941-739-0001 www.cloverleaftool.com • sales@cloverleaftool.com	Ultimate Penetrator	Sewer/Storm Pipe Cleaning	12" - 24"	60 to 80		10 lbs.	1	5	3/4" - 1 1/4"
	Big Shark/Small Shark	Sewer/Storm Pipe Cleaning	12" - 60"	60 to 80	1,800 - 2,500	30 lbs./14 lbs.	1	12	3/4" - 1 1/4"	
	Aluminium Grease	Sewer Pipe Cleaning	6" - 12"	40 to 80	1,800 - 2,500	2 lbs.	1	6	3/4" - 1"	
	Bomb	Sewer Pipe Cleaning	6" - 15"	60 to 80	1,800 - 2,500	3 lbs.	1	5	1"	
	Chisel	Sewer Pipe Cleaning	6" - 15"	60 to 80	1,800 - 2,500	2 lbs.	1	6	3/4" - 1"	
	Truder	Sewer/Storm Pipe Cleaning	12" - 24"	60 to 80	1,800 - 2,500	16 lbs.	1	3	1"	
	Floor Cleaner	Sewer/Storm Pipe Cleaning	10" - 48"	60 to 120	1,800 - 3,000	50 lbs.		8	3/4" - 1 1/4"	
	Floor Cleaner	Sewer Pipe Cleaning	6" - 12"	16 to 25	2,500 - 5,000	8 lbs.		10	1/2"	
	Traction	Sewer Cleaning	4" - 12"	16 to 25	3,000 - 5,000	1 lb.	1	12	1/2"	
	Bomb	Sewer Cleaning	4" - 12"	16 to 25	3,000 - 5,000	2 lbs.	1	14	1/2"	
 Enz USA Inc. 1585 Beverly Ct., Unit 115, Aurora, IL 60502 877-369-8721 • 630-692-7880 • (f) 630-692-7885 www.enzusa.com • sales@enzusa.com See ad page 78	Bulldog Antiblast	Anti-Toilet Blowing in Residential	6" - 24"	55 to 80	1,500 - 1,800	17 lbs.	6		1" - 1 1/4"	
	Bulldog	Cleaning grease, roots, deposits, etc.	8" - 24"	50 to 120	2,000 - 2,900	17 lbs.	7	6	1" - 1 1/4"	
	Rotodrill	Cleaning block pipes, frozen pipes, heavy debris	2" - 14"	13 to 80	2,000 - 4,000	0.25 lbs. to 1.5 lbs.	1	6	1/2" - 1"	
	Grenade - 40.100	Flushing heavy debris	6" - 12"	40 to 80	2,000 - 3,600	11 lbs.		10	1"	
	Chisel 60.100L	Penetrating clogs, root masses, frozen pipes	6" - 16"	50 to 80	2,000 - 3,600	6 lbs.	4	6	1"	
	10.125TR Chain Scraper	Root removal, hard grease, hard deposits	5" - 12"	14 to 80	2,000 - 3,600	6 lbs.		7	1"	
	10.200R Rotating Chain Scraper	Removal of root masses, clogs, hard deposits	8" - 16"	50 to 80	2,000 - 3,600	78 lbs.		6	1"	
	10.400R Rotating Chain Scraper	Removal of root masses, clogs, hard deposits	16" - 32"	80 to 120	2,000 - 3,600	105 lbs.		6	1"	
	14.300 Milling Cutter	Removal of concrete & mineral deposits	12"	80 to 100	2,000 - 2,200	178 lbs.		6	1"	
	Turbopuls 410.120A	Removal of semi-hard thick deposits	8" - 40"	40 to 80	2,000 - 2,900	32 lbs.		9	1"	
See ad page 90	Flush Quip Inc. 1900 Brookside Blvd., Winnipeg, MB R3C 2E6 Canada 800-295-1669 • 204-694-3318 • (f) 204-697-4790 www.flushquip.com • ubaziuk@flushquip.com	Rocket Nozzle	Heavy sewer cleaning	6" - 18"	50 to 120	2,000 - 3,000	9 lbs.	1	3	1" - 1 1/4"
	Torch Nozzle	Heavy cleaning	8" - 30"	45 to 150	2,000 - 3,000	13 lbs.		9	1" - 1 1/4"	
See ad page 2	General Pipe Cleaners 1101 Thompson Ave., McKees Rocks, PA 15136 800-245-6200 • 412-771-6300 www.drainbrain.com • info@drainbrain.com	Chisel Point Nozzle	Penetrating, breaking up debris	4" - 10"	12	2,500	4 oz.	4	6	1/2"
	Traction Nozzle	Sand and mud removal	4" - 10"	12	2,500	8 oz.	1	6	1/2"	
	Cleaning Nozzle	Maintenance Cleaning	4" - 10"	12	2,500	12 oz.		8	1/2"	
	Spring Leader Nozzle	Guiding hose around tight bends	2" - 10"	1.5 to 8	1,500 - 3,000	4 oz.		3 to 4	1/8" - 1/4" - 3/8"	
	Downhead Nozzle	Dropping down Ts	2" - 4"	1.5 to 4	1,500 - 3,000	2 oz.		3	1/8"	
	Chain Saw Nozzle	Cutting roots	4" - 10"	4 to 12	2,500 - 3,000	2 lbs.		2 to 4	3/8" - 1/2"	
	Rotary Nozzle	Scour pipe walls clean	2" - 10"	1.5 to 12	1,500 - 3,000	2 oz. to 10 oz.		2 to 4	1/8" - 1/4" - 3/8" - 1/2"	

(Nozzle Directory continued)

Nozzle Company Directory 2013

COMPANY	Name of Nozzle	Application	Pipe Diameter	Flow Rate (GPM)	Max Operating Pressure (PSI)	Weight	# of Avail. Front Jets	# of Avail. Rear Jets	Hose Size/Connecting Thread
<p>See ads on pages 31, 59</p> <p>Jetstream of Houston 5905 Thomas Rd., Houston, TX 77041 800-231-8192 • 832-590-1300 • (f) 832-590-1304 www.waterblast.com • sales@waterblast.com</p>	15K Orbi-Jet	Surface Cleaning	N/A	25	15,000	N/A	4	0	1/2" NPT Female
	15K Straight Tip	Surface Cleaning	N/A	51.7	15,000	N/A	1	0	1/4" NPT Male
	15K Fan Tip	Surface Cleaning	N/A	51.7	15,000	N/A	1	0	1/4" NPT Male
	15K Rotomag	Pipe Cleaning	>3"	50	15,000	N/A	2	2	3/4" NPT Male
	15K Tube Spinner w/Nozzle	Tube Cleaning	>.5"	50	15,000	N/A	Various	Various	Various
	15K Compact Nozzle	Tube Cleaning	>.5"	36.2	15,000	N/A	Various	Various	Various
	15K Evaporator Nozzle	Tube Cleaning	>.5"	36.2	15,000	N/A	Various	Various	Various
	15K Abrasive Nozzle	Surface Cleaning	N/A	8	15,000	N/A	Various	Various	3/8" NPT Female
	20K Orbi-Jet	Surface Cleaning	N/A	7.5	20,000	N/A	4	0	9/16" MP Female
	20K Straight Tip	Surface Cleaning	N/A	20.7	20,000	N/A	1	0	Gun Nozzle Holder
	20K Fan Tip	Surface Cleaning	N/A	20.7	20,000	N/A	1	0	Gun Nozzle Holder
	20K Rotomag	Pipe Cleaning	>3"	55.3	20,000	N/A	2	2	3/4" MP Female
	20K Pineapple	Pipe Cleaning	>3"	7.6	20,000	N/A	4	6	3/4" MP Female
	20K Tube Spinner w/Nozzle	Tube Cleaning	>.5"	14.6	20,000	N/A	2	2	Various
	20K Compact Nozzle	Tube Cleaning	>.5"	41.8	20,000	N/A	Various	Various	Various
	20K Evaporator Nozzle	Tube Cleaning	>.5"	41.8	20,000	N/A	Various	Various	Various
	20K Abrasive Nozzle	Surface Cleaning	N/A	4.8	20,000	N/A	Various	Various	9/16" MP Female
	40K Tornado Nozzle	Surface Cleaning	N/A	8.2	40,000	N/A	3 to 4	0	9/16" Button Seal
	40K UHPE Nozzles	Tube Cleaning	>.5"	7.8	40,000	N/A	Various	Various	Various
	<p>See ad page 45</p> <p>MyTana Mfg. Co. Inc. 746 Selby Ave., St. Paul, MN 55104 800-328-8170 • 651-222-1738 • (f) 651-222-1739 www.mytana.com • jdonaldson@mytana.com</p>	Cornering	Navigating Elbows	1 1/2" - 8"+	2 to 8	1,500 - 3,000	< 8 oz.	1	3
Penetrating Thrust		Paper Products	1 1/2" - 8"+	2 to 8	1,500 - 3,000	< 8 oz.	1	3	1/8" - 1/4" - 3/8" - 1/2"
Blind Thrust		Pulling Power	1 1/2" - 8"+	2 to 8	1,500 - 3,000	< 8 oz.		4	1/8" - 1/4" - 3/8" - 1/2"
Monster Flush		Pulling & Cleaning	1 1/2" - 8"+	2 to 8	1,500 - 3,000	< 8 oz.	1	6	1/8" - 1/4" - 3/8" - 1/2"
General		Cleaning	1 1/2" - 8"+	2 to 8	1,500 - 3,000	< 8 oz.		6	1/8" - 1/4" - 3/8" - 1/2"
Degreasing/Delcing		Grease & Frozen Lines	1 1/2" - 8"+	2 to 8	1,500 - 3,000	< 8 oz.	3	6	1/8" - 1/4" - 3/8" - 1/2"
Rotating		Cleaning	1 1/2" - 8"+		1,200 - 4,000	< 8 oz.		2	1/4" - 3/8" - 1/2"
Drop Head		Touch Corners Commercial	1 1/2" - 4"	2 to 2	1,500	< 8 oz.		3	1/8" - 1/4"
Jetter Leader		Navigating	3" - 8"	4 to 12	3,000	< 8 oz.		4	3/8"
<p>See ad page 54</p> <p>NLB Corp. 29830 Beck Rd., Wixom, MI 48393 248-624-5555 • (f) 248-624-0908 www.nlbcorp.com • nlbmrktg@nlbusa.com</p>	Typhoon™ 10	Tube Cleaning	5/8" - 3/4"	9 to 20	15,000 to 40,000	2 oz. to 4 oz.	4 to 5		varies inches
	Typhoon™ 20	Pipe & Tube Cleaning	6" - 10"	20	24,000	2 lbs.	4 to 5		3/4" - 24"
	TS-1	Tube Cleaning	1/2"	5.6 to 8.25	10,000 - 15,000	6 oz.	1 to 4	6	1/16" NPT
	TS-1-20K	Tube Cleaning	1/2"	4 to 10	20,000	6 oz.	1 to 4	2 to 6	1/4" UFN
	TS-1-40K	Tube and Pipe Cleaning	1/2"	4.75 to 8	40,000	6 oz.	1 to 2	2 to 3	1/4-28" UNF
	RLM	Pipe and Tube Cleaning	1/2" - 1 1/2"	5 to 18	10,000 - 20,000		1 to 4	3 to 6	varies
<p> NozzTeg® Inc. 1497 Main St. #354, Dunedin, FL 34698 866-620-5915 • 603-413-6583 • (f) 603-413-6744 www.nozzteg.com • info@nozzteg.com</p> <p>See ad page 64</p>	BL Swiper™ (Med)	Reduce blown toilets and safe in lined pipes	8" - 18"	15 to 250	400 - 4,000	3 lbs.		4	1/2" - 3/4" - 1" - 1 1/4"
	HAMMERHEAD™	High performance sewer cleaning or storm water cleaning	6" - 12"	5 to 80	400 - 4,000	4 lbs.		4	1/2" - 3/4" - 1"
	Multi-Global Nozzle™	Sewer and pipe cleaning for penetration	2" and Up	4 to 170	400 - 4,000	2 lbs.	4	6-Jan	1/2" - 3/4" - 1" - 1 1/4"
	JAWS™	High performance sewer and pipe cleaning heavy debris	6" - 30"	30 to 265	400 - 4,000	7 lbs.		5	1/2" - 3/4" - 1" - 1 1/4"
	IceBear Penetrating Nozzle™	Sewer and pipe cleaning penetrating nozzle	1" and Up	4 to 170	400 - 4,000	1lbs. to 3 lbs.	3		1/4" - 1/2" - 3/4" - 1" - 1 1/4" - 1 1/2"
	C-RAY 200™	Bottom cleaning for sewer and pipe	12" - 36"	30 to 265	400 - 4,000	22 lbs.	1	6	1/2"
	C-RAY 400™	Bottom cleaning for sewer and pipe	15" and Up	40 to 350	400 - 4,000	42 lbs.	1	8	3/4" - 1" - 1 1/4" - 1 1/2"
	BL Swiper™ (large)	Ventura effect type nozzle to clean with water in the line and sucks the water down	15" and Up	40 to 265	400 - 4,000	13 lbs.			39
	Spinner Nozzles (No rebuilds)	Grease and other obstructions	4" and Up	14 to 350	400 - 4,000	3lbs. to 15 lbs.	2		1/2" - 3/4" - 1" - 1 1/4" - 1 1/2"
	Goblin Grease Eater™	Grease nozzle sewer lines or storm lines	6" and Up	40 to 350	400 - 4,000	12 lbs.	1	10	3/4" - 1" - 1 1/4" - 1 1/2"
	NATAB	Penetration with sewer and pipe cleaning	4" - 12"	5 to 50	400 - 4,000	3 lbs.	1	4	1/2" - 3/4"
	BL Swiper™ (Small)	Helps reduce blown toilets with 1/2" and 3/4" units	4" - 12"	10 to 80	400 - 4,000	2 lbs.		4	1/2" - 3/4"
	MONRO-JET™	Hydro-Excavation	2" - 8"	3 to 20	2,000 - 36,000	2 lbs.	1		1/2"

Nozzle Company Directory 2013

COMPANY	Name of Nozzle	Application	Pipe Diameter	Flow Rate (GPM)	Max Operating Pressure (PSI)	Weight	# of Avail. Front Jets	# of Avail. Rear Jets	Hose Size/Connecting Thread
NozzTeq® Inc. - continued	ORCA™	Two truck operation at either end of the pipe	15" - 60"	40 to 350	400 - 4,000	15 lbs.		8	3/4" - 1" - 1 1/4" - 1 1/2"
	Missile Nozzle	Heavy duty cleaning with optional front jet	6" - 36"	40 to 265	400 - 4,000	10 lbs.	4	6	3/4" - 1" - 1 1/4" - 1 1/2"
	Golden Nozzle	Recycled water use with our same tube system technology	6" - 36"	40 to 265	400 - 4,000	6 lbs.	1	6	3/4" - 1" - 1 1/4" - 1 1/2"
	C-RAY 800™	Dual truck operation for double the flow for large pipes	36" - 96"	120 to 350	400 - 4,000	50 lbs.		8	3/4" - 1" - 1 1/4" - 1 1/2"
See ad page 104 Spartan Tool 1506 W Division St., Mendota, IL 61342 800-435-3866 • 815-537-7411 • (f) 888-876-2371 www.spartantool.com customerservice@spartantool.com	Sandshoe	Sand, dirt and rocks	4" - 18"	12 to 18	2,000 - 4,000	7 lbs.		4	3/8" - 1/2"
	Rotating	Scrubbing pipe walls	2" - 12"	4 to 18	2,000 - 4,000	1 lb. to 3 lbs.		3	1/4" - 3/16" - 3/8" - 1/2"
	Q Nozzle	Downhill jetting	4" - 12"	12 to 18	2,000 - 4,000	1 lb. to 2 lbs.	3	4	3/8" - 1/2"
	Rocket Nozzle	Long distance jetting	4" - 12"	12 to 18	2,000 - 4,000	2 lbs.	1	4	3/8" - 1/2"
	Closed Nozzle	Standard jetting	2" - 12"	4 to 18	2,000 - 4,000	1 lb.		4	3/8" - 1/2"
	Open Nozzle	Standard jetting	2" - 12"	4 to 18	2,000 - 4,000	1 lb.	1	4	3/8" - 1/2"
	Brass Ball	Stainless steel hose jetting	2" - 8"	4 to 18	2,000 - 4,000	1 lb.		4	3/16"
See ads on page 4, 83 StoneAge Tools 466 S Skyline Dr., Durango, CO 81303 866-795-1586 • 970-259-2868 • (f) 970-259-2868 www.stoneagetools.com customerservice@stoneagetools.com	Warhog WV-1/4	Ice and Grease/Sludge Removal and Descaling	3" - 24"	3 to 8	2,000 - 5,000	45 lbs.	1	2	1/4"
	Warhog WT-3/8-C	Root cutting, Ice and Grease/Sludge Removal and Descaling	3" - 6"	5 to 12	2,000 - 5,000	1.2 lbs.	1	2	1/8" & 3/8"
	Warhog WS-1/2	Root cutting, Ice and Grease/Sludge Removal and Descaling	4" - 8"	8 to 20	1,500 - 5,000	2.95 lbs.	1	2	1/2"
	Warhog WH-1/2	Root cutting, Ice and Grease/Sludge Removal and Descaling	6" - 8"	10 to 50	1,500 - 8,000	4.7 lbs.	1	2	1/2"
	Warhog WHP-3/4 Puller	Root cutting, Ice and Grease/Sludge Removal and Descaling (Excellent for longer runs or inclines)	6" - 18"	15 to 50	1,500 - 8,000	4.7 lbs.	1	2	1/2"
	Warhog WG-1 Classic	Root cutting, Ice and Grease/Sludge Removal and Descaling	8" - 36"	50 to 80	1,500 - 5,000	10.9 lbs.	1	4	1/2"
	Warhog WGP-1 Puller	Root cutting, Ice and Grease/Sludge Removal and Descaling (Excellent for longer runs or inclines)	8" - 36"	50 to 80	1,500 - 5,000	10.9 lbs.	1	4	3/4"
	Warhog WD 1-1/4	Root cutting, Ice and Grease/Sludge Removal and Descaling	8" - 36"	80 to 120	1,500 - 8,000	11 lbs.	1	6	3/4"
See ad page 65 US Jetting, LLC 850 McFarland Pkwy., Alpharetta, GA 30004 800-538-8464 • 770-740-9917 • (f) 770-740-0297 www.usjetting.com • sales@usjetting.com	RDP (Rapid Power Delivery)	General all purpose cleaning nozzle	3"-18"	10 - 36gpm	10,000	1 lb.	1-4	6	3/8" - 1"
	RPD Chisel and Egg Style	Forward push when working down stream with the flow	2"-18"	10-65gpm	5,000	1 lb. to 3 lbs.	1-4	6-12	3/8"-1"
	Standard Drain Jet	De Icing or hard blockage penetration	3"-8"	6-18gpm	5,000	6 oz.	1	6	1/2"
	Ball Jets	Used in damaged pipes with offset joints	1"-8"	4-25gpm	5,000	6 oz. to 1 lb.	1	3-6	1/8" - 1/2"
	Dragon Jet	Large diameter storm drain culvert cleaning	10" - 48"	18-80gpm	4,000	50 lbs.	0	4	1/2" - 1"
	Water Lubricated Rotary Nozzle	Grease and Root Removal	4"-12"	10-25gpm	10,000	3 lbs.	1	2	
	Controlled Rotation Nozzle	Grease, roots and hard scale	4"-18"	6_80gpm	8,000	5 lbs. to 20 lbs.	1	2-4	
	Monro Orbital Drain Nozzle	Cutting obstacles out of pipes	4"-12"	10-30gpm	10,000	5 lbs.	1	3	
	Vac Pump	Venturi vac pump		10-25gpm	3,000	40 lbs.	0	6	
	The Hummer	Boring through tough hard blockages	6" - 8"	18	4000		1	3 to 6	1/2" NPT
 USB - Sewer Equipment Corporation 1700 Enterprise Way, Ste. 116, Marietta, GA 30067 866-408-2814 • 770-984-8880 • (f) 770-984-2802 www.usbsec.com • info@usbsec.com USB - SEC See ad page 85	Flying Nozzle - 3D	Hilly difficult terrain; Silt, Sand & Large Debris Removal	4" - 24"	13 to 120	2,000 - 4,000	1/2/5/12 lbs.		6/8	1/2" - 3/4" - 1" - 1 1/4"
	Cleaning Nozzle - 3D	General Cleaning of Sand, Silt, Mud & Grease	4" - 15"	13 to 80	2,000 - 4,000	1/2/5/7.5 lbs.	1	7/9/9/11	1/2" - 3/4" - 1"
	Pipe Wolf	Total obstructions & Blockages caused by Roots, Grease & Organic Solid Material	4" - 24"	15 to 120	2,000 - 4,000	2.2/5.8/12.8 lbs.	3	6	1/2" - 3/4" - 1" - 1 1/4"
	Primus Nozzle	Grease, Scale, Crusts & Roots	4" - 24"	15 to 120	2,000 - 4,000	2.5/7/8/19.4 lbs.	5/6	3/4/06	1/2" - 3/4" - 1" - 1 1/4"
	Superior Penetrator Nozzle - 3D	Pipe lines w/off-sets, drop joints, voids, etc.	6" - 15"	30 to 120	2,000 - 3,000	9.8 lbs.	1	8	3/4" - 1" - 1 1/4"
	Dredger Nozzle	Removal of heavy solids, silt, sand & sludge at the bottom of pipe	8" - 96"	40 to 120	2,000 - 3,000	22/40/56/59 lbs.		6/8/10/14	3/4" - 1" - 1 1/4"
	Antiblaster Nozzle - 3D	Shallow sewer lines, Sewer lines close to homes	6" - 12"	30 to 80	2,000 - 3,000	4 lbs.	1	8	3/4" to 1"

(Nozzle Directory continued)

Nozzle Company Directory 2013

COMPANY	Name of Nozzle	Application	Pipe Diameter	Flow Rate (GPM)	Max Operating Pressure (PSI)	Weight	# of Avail. Front Jets	# of Avail. Rear Jets	Hose Size/Connecting Thread
USB - Sewer Equipment Corporation - continued	Ultimate Chisel Nozzle	Total obstructions, blockages & pipe deformations	6" - 24"	50 to 120	2,000 - 3,000	5.2 lbs.	4	6	1/2" - 3/4" - 1" - 1 1/4"
	Grand Slam - 3D	General Sewer Cleaning	6" - 15"	50 to 120	2,000 - 3,000	12 lbs.		8	3/4" - 1" - 1 1/4"
	Super Slam - 3D	General Cleaning in large sewer/storm lines	10" - 40"	50 to 120	2,000 - 3,000	15 lbs.		12	3/4" - 1" - 1 1/4"
See ad page 102 Water Cannon Inc. 4044 W Lake Mary Blvd., Units 104-424, Lake Mary, FL 32746 800-333-9274 • (f) 888-928-9274 www.watercannon.com • sales@watercannon.com	Jetter Nozzle Set 4-Pack	Commercial Drain Cleaning	2" - 6"	2.5 to 8	1,200 - 5,000	.04 lbs.			1/8" - 1/4" MPT
	3-6 Piece AquaNoz Sewer Set	Industrial Sewer and Drain Cleaning	2" - 24"	2 to 80	1,200 - 15,000	.05 lbs. to .25 lbs.			1/4" - 3/8" - 1/2" MPT

Cleaner NOZZLE COMPANY DISTRIBUTORS DIRECTORY 2013

COMPANY	NOZZLE LINES
See ads on pages 21, 73 Allan J. Coleman 5725 N Ravenswood Ave., Chicago, IL 60660 773-728-2400 • (f) 773-728-2499 info@allanjcoleman.com • www.allanjcoleman.com	Aqua Mole, Chempure, StoneAge
See ad page 41 Amazing Machinery, Inc. 2160 S Lee Hwy., Cleveland, TN 37311 800-504-7435 • 423-472-2527 • (f) 800-504-7436 www.amazingmachinery.com • sales@amazingmachinery.com	Arthur Products, Suttner
See ad page 66 Drainables Direct 1703 Toll Gate Dr., Maumee, OH 43537 800-421-4580 • (f) 800-752-8524 www.drainables.com • sales@drainables.com	Aqua Mole
See ads on pages 31, 59 Jetstream of Houston 5905 Thomas Rd., Houston, TX 77041 800-231-8192 • 832-590-1300 • (f) 832-590-1304 www.waterblast.com • sales@waterblast.com	StoneAge
See ad page 96 Jetter Depot 745 Atlanta Rd., Ste. 207, Cumming, GA 30040 (f) 678-807-2944 sales@jetterdepot.com • www.jetterdepot.com	Nuova Contec
See ad page 97 MTech 7401 First Pl., Cleveland, OH 44146 800-362-0240/440-646-0996 • (f) 440-646-9953 www.mtechcompany.com • sales@mtechcompany.com	StoneAge, Advanced Workhorse, UEMSI
See ad page 23 PrimeLine Products, Inc. 309 Altamonte Commerce Blvd., Blvd. 1518, Altamonte Springs, FL 32714 877-409-7888 • 407-772-8131 • (f) 407-786-8131 www.primelineproducts.com • andy@primelineproducts.net	NozzTeq
See ad page 104 Spartan Tool 1506 W Division St., Mendota, IL 61342 800-435-3866 • 815-537-7411 • (f) 888-876-2371 www.spartantool.com • customerservice@spartantool.com	StoneAge Warthog
See ads on pages 49, 62 The Cable Center 8318 Olive Blvd., St. Louis, MO 63132 800-257-7209 • 314-993-3099 • (f) 314-432-8024 www.thecablecenterinc.com • thecablecenter@gmail.com	General Wire Spring, RIDGID, StoneAge

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- SeeSnake HQ Software to edit, archive, and deliver reports via print, DVD, or online
- On-screen keyboard for basic titling and text entry
- CS-6 will dock in the RM-200 Max or operate as a stand alone monitor

CS10 Digital Recording Monitor



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Lake County Sewer in Willowick, Ohio, relies on three camera/grouting trucks built out by Aries Industries. The trucks have provided a big boost in efficiency.

Making it Easy

ARIES CAMERAS HELP OHIO CONTRACTOR INCREASE PRODUCTIVITY, ELIMINATE DOWNTIME AND DELIVER FAST RESULTS FOR CUSTOMERS

BY KEN WYSOCKY

When Rick Marucci invests in equipment for Lake County Sewer Co. Inc., the trenchless sewer-rehabilitation firm he founded in 1980, he keeps a simple formula in mind: Greater productivity equals greater profitability.

That explains why the Willowick, Ohio-based company now owns three camera/grouting trucks built out by Aries Industries Inc., plus two other standard camera-televising trucks and 10 Aries pipeline inspection camera systems.

Marucci says reliability is a key factor in his buying decisions. While it's a given that camera systems take a beating every day and breakdowns occur at times, Marucci lauds the Aries cameras for their ease of maintenance and repair.

"We own every camera that Aries makes," says Marucci, the company's owner and chief executive officer. "We work all over the country, so we have duplicates and sometimes triplicates of every camera, just in case they break down.

"Aries makes great equipment," he continues. "It's operator-friendly – easy to hook up, easy to insert into a sewer system and easy to break down.

money machines

OWNER:	Lake County Sewer Co. Inc., Willowick, Ohio
EQUIPMENT:	Pipeline inspection camera systems, camera-televising trucks and camera-televising/grouting trucks made by Aries Industries Inc.
FUNCTION:	Inspecting and grouting sewer laterals and mainlines
FEATURES:	Box bodies made by Morgan Corp. and US Truck Body.; International truck chassis; grouting systems made by Logiball Inc.
COST:	About \$200,000 for a camera truck and \$450,000 for a fully equipped camera/grouting truck

It's easy to maintain, easy to repair in the field. Our labor and our equipment are our two biggest expenses, and if we have breakdowns, we have zero productivity. With Aries, we seldom send anything in for repairs – we can usually do them right here."

>> Joe Pennza views and records a grouting project in the Aries camera truck.

The camera trucks feature International chassis with box bodies made by Morgan Corp. and US Truck Body. The company relies on grouting systems made by Logiball Inc. to seal connections between mainline sewers and laterals, or to seal leaking manholes and mainlines.

Good equipment doesn't come cheaply. Marucci says a bare-bones Aries camera-televising truck costs about \$200,000, and the last fully equipped camera/grouting truck the company purchased in 2011 cost around \$450,000. But he says the company gets a return on its investment in the form of improved productivity.

"I'd say that in general, our new equipment ups production about 20 percent compared to what it was 10 years ago," Marucci says. "Plus, the newer trucks get better fuel economy, too."

Take the Lateral Evaluation Televising System (LETS) found inside the company's newest truck, for example. It uses a Seeker push camera, mounted on a fiberglass-core push rod, to inspect 3-, 4- and 6-inch-diameter lateral connections up to 150 feet from a main sewer line. More important, it enables crews to avoid time-consuming and inconvenient inspections from a residential basement or yard clean-out.

"I'd say that in general, our new equipment ups production about 20 percent compared to what it was 10 years ago. Plus, the newer trucks get better fuel economy, too."

Rick Marucci

"Crawler cameras are better than they were 10 years ago because they can go farther," he notes. "Around 10 years ago, we could do 500 feet of inspections at a time. Now we can go 1,000 feet. So instead of breaking the truck down and doing mainline inspections manhole by manhole, now we're capable of doing multiple manhole runs at the same time. It basically takes a 12-hour day and shrinks it to a 10-hour day."

Marucci also likes the ease and speed with which crews can provide customers with inspection reports. At the end of a work day, a technician can



print out a report and give it to a customer on the spot, or put it on a thumb drive or a CD/DVD.

"Plus, all our trucks have wireless Internet on them, so we can transfer info right to the client that way, too," he says. "The speed of getting reports to clients is tenfold easier than it was 10 years ago. Customers love that convenience." c

"We used to have to go from the house and push it through the clean-out, or dig out a clean-out in the yard and go toward the main," Marucci explains. "Now we just go from the mainline and we don't have to bother anyone. It saves us hours on every job."

The LETS system – which is available on either crawlers or wheels – can also inspect mainline sewers. Its efficiency enables crews to inspect more linear feet per day; on a good day, a crew might inspect 1,200 to 1,500 feet of sewer line, Marucci says.

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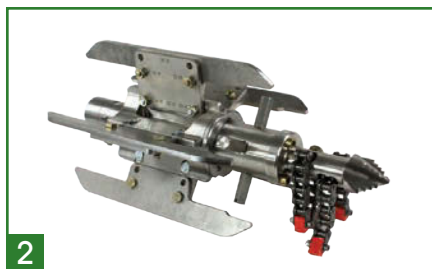
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Chemical and Mechanical Root Control BY CRAIG MANDLI

Chemical control can be an effective remedy for root blockages in sewer lines, but mechanical removal through the use of cutters, nozzles, cable machines and jettors is often needed for advanced problems and severe blockages. Manufacturers offer a wide variety of tools for cutting and cleaning out problem roots. Here are some of the latest offerings.



ROOT CUTTERS

1. DRAIN-CLEANING CUTTER

The **ClogChopper** drain-cleaning cutter from **General Pipe Cleaners** features six self-sharpening blades that dig into encrusted debris and root masses, grinding up stoppages, scale and crystallized urine, without risking pipe damage. The spherical design maneuvers around tight bends and traps, cleaning metal, plastic and clay pipes. It is available in 1-, 1 1/2-, 2-, 2 1/2-, 3- and 4-inch sizes, and is ideal for clearing stacks, downspouts and mains. 800/245-6200; www.drainbrain.com.

2. HIGH-SPEED CUTTER

The **Supernova** from **KEG Technologies** is a high-speed, high-torque cutter capable of quickly removing roots in sewer or storm lines from 6 to 48 inches. Features include a heavy-duty one-piece stainless steel body and fin assembly; two heavy-duty roller chains; replaceable jet inserts sized for the equipment's gpm, psi and hose length; stainless steel skids and sizing plates; and minimal maintenance with no required lubrication. It is adjustable from 6 to 16 inches, with optional expansion kits to 48 inches, and can achieve operating flow rates from 60 to 180 gpm and working pressures from 1,700 to 3,000 psi. It can clear other obstacles in the line like concrete, grease, tuberculation or protruding laterals while eliminating root problems. 866/595-0515; www.kegtechnologies.net.

3. SEWER AND STORM CUTTER AUGER

The **Paikert** sewer and storm cutter auger from **NozzTeq** is a low-speed, hydro-torque impact cutter designed for severe root blockages, concrete, grease, protruding laterals and any substance at up to 5,000 psi. It features a Hydro-Torque impact drill motor, is designed to work with most jetting machines and does not require any lubrication. It uses double root saw blades along with single hardened bits to remove thick heavy root growth. It is available in sizes from 4 to 24 inches, and can be customized with a variety of cutting accessories. 866/620-5915; www.nozzteq.com.

4. PNEUMATIC PIPE DEBRIS AND REINSTATEMENT CLEANER

The **Pneumatic Micro-Cutter** from **Nu Flow Technologies** can be used to clean and remove pipe debris, calcite and roots from the inside of a variety of pipes, including steel, cast iron and Orangeburg. It rotates at approximately 2,000 rpm in 1 1/2-inch and larger pipes in lengths up to 150 feet, and will negotiate turns of 90 degrees in pipes down to 2 inches in diameter. It runs at 40 cfm and allows for multiple cutting heads. It is also available in an electric/light-duty model. 800/834-9597; www.nuflowtech.com.

5. TUNGSTEN CARBIDE-TIPPED CUTTER

Cutters tipped with tungsten carbide from **Productive Carbides Inc.** can be used to cut wood, metal and stone. When brazed onto sewer saws, the aggressive edge cuts fast and increases the life of the saw. The carbide is available in various shapes and grades, and is produced from mixing crushed



carbide in a copper-alloy grit braze that wears smoothly and is fracture resistant. Saws brazed with it can be used to cut clay, concrete and cast-iron laterals. 800/676-7649; www.productivecarbides.com.

6. ROOT AND GREASE CUTTER

The **Patriot 1** root and grease cutter from **Sewer Equipment Company of America** is capable of cleaning pipes ranging from 4 to 20 inches in diameter. It combines both rollers and skids to stabilize the cutter, allowing it to travel through the pipe with minimal friction. This enables reduced water consumption and more efficient cleaning. The rollers guide the skid assembly over offsets, joints and misaligned pipe, minimizing the possibility of getting hung up in the sewer line. Additionally, the skids are adjustable, which eliminates the need to change skids for different size pipes. They are available in 3/4- and 1-inch configurations, pressures up to 3,000 psi and flows up to 80 gpm. Accessories include tap cutters, root saws and blades. 800/323-1604; www.sewerequipment.com.

7. CHAIN CUTTERS

Turbo Chain Cutters from **USB-Sewer Equipment Corporation** are made of tempered stainless steel and offer continuously adjustable guide skids. The chain retainer is driven by a high-performance turbine to remove roots, grease and mineral deposits from 4- to 48-inch sewer lines. With an optimized 3-D hydromechanics design, in conjunction with ceramic nozzle inserts, the cutters use recycled or clean water. They can also be used as barrel cutters with diamond bits for smooth removal of protruding laterals. Heavy mineral deposits can also be removed with carbide bits attached to the specialized chain. 866/408-2814; www.usbsec.com.

ROOT CHEMICALS

8. ROOT HERBICIDE

Razorooter II root-control herbicide from **Duke's Root Control** leads to extended pipe life, reduced SSO occurrences, and maximized asset

value. It contains the active ingredient diquat dibromide, a product of Sewer Sciences Inc. It is registered with the U.S. Environmental Protection Agency. The company can customize a root-control program that integrates capacity, management operations and maintenance into each municipality's O&M plan. If a root-related stoppage occurs within two to three years after treatment, they will re-treat the line. 800/447-6687; www.dukes.com.

9. FOAMING ROOT CONTROL

Oblitiroot, a foaming sewer line root control product from **Olvidium**, has been formulated to use the maximum amount of the active ingredient, Dichlobenil, currently allowed by the EPA. It comes in two pouches which, when combined, create a sticky foam with a latex base that can be applied through the clean-out or in the toilet bowl. The latex makes it stick to pipes and roots, which causes the Dichlobenil vapor to remain in the line to kill roots longer. 855/782-4531; www.olvidium.com.

10. ROOT INTRUSION FORMULA

Registered with the EPA, **RootX** can be used by sewer departments to enhance their pipe maintenance programs and by drain cleaners as an effective tool and profitable add-on service. The foaming action lifts the root-killing active ingredient to the top of the pipe where 90 percent of intrusion occurs. It also sticks to the top of the pipe and roots to keep blockages caused by root regrowth from occurring for up to 12 months. 800/844-4974; www.rootx.com.

11. ROOT-KILLING FOAM

Sanafoam Roo-Pru from **Vaporoooter** can be applied with the Jet Set Commander. It contains no Metam Sodium or Diquat, and does not require operators to be licensed. At the push of a touch-screen button, operators go from jetting to foaming automatically, and then retrieve the hose while filling the pipe with root-killing foam. The application equipment can be installed on most jet or combo trucks, and can even be used with a trailer jet. 800/841-1444; www.vaporoooter.com.



NOZZLES

12. TOWABLE JETTER NOZZLE

The **Cnt-r-KUT “TOW HOOK”** towable jetter nozzle from **Arthur Products** allows for pressurized water to be applied by the integration of a towing nozzle that can be pulled through the line. The technician can also pull a line from point “A” to point “B” if required. It is flexible enough to conform to damaged or deformed lines and can easily be trimmed in the field to fit virtually any line from 2 to 8 inches in diameter by attaching a 3/8- or 1/2-inch NPT hose to one end. It is available in standard and mini sizes. 800/322-0510; www.arthurproducts.com.

13. LOW-MAINTENANCE CUTTING NOZZLE

Root Rat cutting nozzles from **Chempure Products** are used with jettors from 11 hp to large truck-mounted models. Manufactured of hardened stainless steel, the cutters come with a toolbox with two interchangeable rotors – one with cables and the other with chains. The combination kit includes extra chain, cable and bearings. They need no repair or rebuilding other than bearing replacement, which can be completed in less than two minutes for under \$10 in parts. 800/288-7873; www.chempure.com.

14. JETTER VIDEO NOZZLE

The **JetScan HD** video nozzle from **Envirosight** can capture HD video from any jetter. Deployed on any 3/4- or 1 1/2-inch jetter hose, it is a quick, easy way to determine what tools and setup to use, identify blockages during emergency call-outs and document the outcome of cleaning operations. As it advances down pipe 8 to 24 inches in diameter, it records 720p HD video in MPEG format to an onboard SD memory card. Immediately afterward, the card can be removed and video viewed on an iPad or other SD-compatible device. Twin high-output LED lamps ensure bright, vivid footage. It can operate for four hours on rechargeable lithium-ion batteries, and stores up to eight hours of video. 866/936-8476; www.envirosight.com.

15. ROTATING FRONT-JET NOZZLE

The **Rotodrill** nozzle from **Enz USA** features a rotating front jet for improved cutting performance. It is effective clearing blocked and frozen

pipes, and moving heavy debris. It has ideal propulsion, but can also be used in hydroexcavation by plugging off the thrust jets. The versatile nozzle is available in 1/2-, 3/4- and 1-inch systems. 877/369-8721; www.enzusa.com.

16. ROOT-CUTTING NOZZLE

The **Warthog WG-1 Classic** root-cutting nozzle from **StoneAge** is effective in cleaning pipes from 8 to 36 inches. Since each jet in a nozzle head takes a percentage of pump capacity, fewer jets mean each one gets a larger portion of the pump’s power. Slower rotation (300 to 500 rpm) equals longer dwell time for the jets to do their job. The rotation allows the powerful rear jets to cover the entire inside of the pipe to cut the roots. It can cut roots from 3/16 to 1/2 inch in diameter. 866/795-1586; www.sewernozzles.com.

17. SEWER NOZZLE KIT

Sewer Nozzle Solution Kits from **Ultimate Washer** are custom drilled to customer specifications. They include six nozzles; a **Penetrator** that dislodges blockages, a **Flusher** for loose debris, **Cornering nozzle** that navigates around P-traps and tight bends, **Polisher** for polishing and maximizing line recovery, **De-Icer/De-Greaser** for removal of heavily blocked lines with grease, hard soap or even ice, and **Impactor** that moves sand, grit and light scale which may have accumulated within the line. Kit size varies from 1/8- to 1/2-inch female NPT. Maximum pressures range between 1,200 and 15,000 psi, with flow rates between 1.7 and 80 gpm. All kits are made from 416 L Grade stainless steel. 866/741-2125; www.ultimatewasher.com.

CABLE MACHINES

18. SLED DRAIN MACHINE

The **DM55** sled drain machine from **Duracable Manufacturing** offers a maintenance-free gearbox, an industrial 3/4 hp motor at 175 rpm and a durable frame. The gearbox with a 10:1 gear ratio delivers high torque and horsepower. It offers fully enclosed polyethylene reels, which make for less mess while operating. It is designed to handle several different sizes of reels to provide the operator with flexibility of cable size and length. The power

(continued)

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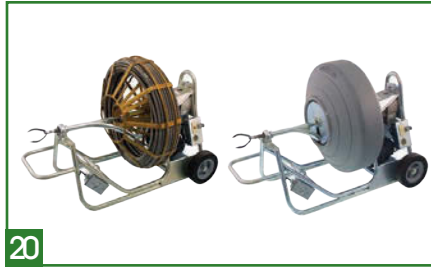
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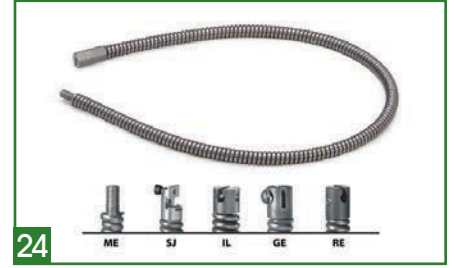
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cable feed and return also comes standard, and feeds and returns cable automatically at a steady pace. It is ideal for use on mainlines, industrial, commercial and residential jobs including overhead and wall clean-outs, flood drains, grease and roots. 877/244-0556; www.duracable.com.

19. SECTIONAL DRAIN AND SEWER CLEANER

The **Model C** sectional drain and sewer cleaning machine from **Electric Eel** runs up to 200 feet of 1 1/4-inch self-feeding dual cable in 8- or 10-foot sections that require no handling when rotating. It spins cable at a high rpm for cleaning power in 3- to 10-inch lines. It can be operated by one person, and a heavy-duty 1/2 hp motor comes standard (3/4 and 1 hp available). A heavy-duty, fully adjustable safety clutch keeps cable and tool breakage to a minimum and provides overload protection. A fold-down handle allows for easy transportation, storage and use in crawl spaces, while a carry handle allows for balance and easy transport. 800/833-1212; www.electriceel.com.

20. DRAIN CLEANING MACHINE

The **Model GO 68HD** heavy-duty electric drain cleaning machine from **Gorlitz Sewer & Drain** is available in two different versions, either with an open steel reel or enclosed polyethylene drum, and can be outfitted with an optional power feeder. Standard configuration is 150 feet of 11/16-inch hollow-core cable, which should reach most blockages with a single reel. The unit weighs 185 pounds, and adding a loading ramp and electric winch to any vehicle makes transportation quick and simple. It is designed to clean pipes from 3 to 8 inches in diameter. 562/944-3060; www.gorlitz.com.

21. LIGHTWEIGHT SEWER CLEANER

The **400** cable machine from **Ken-Way Corporation** is a lightweight sewer machine designed for cleaning 3- to 10-inch lines of blockages ranging from roots to grease. It is equipped with an air switch-activated 1/2 hp motor and a three-speed pulley, which allows speed adjustment depending upon length of cable and the obstruction being encountered. Two 8-inch wheels, along with a set of stair climbers, aid in handling and maneuverability. It is available with an optional power feed or as a manual-feed unit. Cables of 5/8-, 11/16- and 3/4-inch are available in either hollow core or inner core in various lengths. A set of six heavy-duty root-cutting blades, along

with a retriever tool and flexible cable leader, come standard. 800/533-0551; www.ken-way.com.

22. RUBBER-TRACKED POWER CARRIER

The **Easement Machine** from **K&W Products** is a heavy-duty, all-terrain rubber-tracked power carrier that is used in conjunction with a high-pressure hydraulic sewer cleaner. Its maneuverability allows access to easements, ravines, wooded areas, wetlands, narrow alleys and behind homes and buildings. It travels at speeds up to 5 mph and weighs 2,900 pounds for gas models and 3,200 pounds for diesel. Features include a variable-speed reel, water pressure gauge, removable reel (when removed machine converts to a power carrier), reel guide with foot counter, narrow 46-inch design for tight areas, low 3 1/2 psi ground pressure tracks and a 27 hp Kohler Engine. Options include 600 feet of 1-inch 2,500 psi hose, hydraulic tilt bed, work light or plug-in spotlight and 26 hp Kubota diesel engine. 800/503-0076; www.easementmachine.com.

23. LATERAL CLEANING LAUNCHER

The **Lateral Cleaning Launcher** from **Logiball** is pulled in tandem with a multi-conductor camera, positioned at the service connection where the guiding arm is rotated with the tractor controls. The jet operator turns the pump on and a 1/2- or 3/8-inch hose and nozzle are launched into the lateral from the main, cleaning grease, roots, buildups and more. Cleaning distances from 5 and as far as 70 feet into the lateral have been achieved. They are available for 6- up to 18-inch mainlines. 800/246-5988; www.logiball.com.

24. FLEXIBLE LEADER CABLE

The **LE151 Super Flex** leader cable from **MyTana Mfg. Company** is a flexible cable used for leading main cables down a sewer or drainline with twists, turns, elbows, offsets, sweeps and other irregularities. Many contractors keep several leaders available for use in special situations. For instance, leaders with a slight bend 8 to 10 inches from the end can help force a single blade to the outside of the pipe. The leader is suitable for 3/4-inch cable, and is available with a choice of fittings to attach to existing cables and blades. Leader cables are also available in other sizes. 800/328-8170; www.mytana.com.

(continued)

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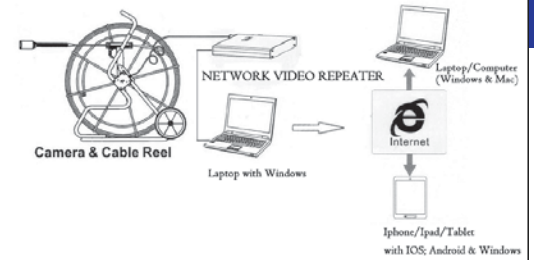
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Figure: The Application of Network Video Repeater



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25. FLEXIBLE DRAIN CLEANER

The **Flexi-Cleaner** from **Southland Tool Mfg.** comes equipped with a Briggs and Stratton or Honda engine and features a steel frame and four wheels for easy tracking (pneumatic tires are available). It comes with instant reverse transmission and an automatic chuck to grip the cable. Its close-coiled, left-hand-wound rods are 1-inch diameter and 25 feet long. They are easily coupled together for cleaning runs up to 600 feet. Once the rod and tool are started in the drain, the unit is wheeled forward or pulled back, which pushes or pulls the rod in or out of the line. **714/632-8198; www.southlandtool.com.**

JETTERS

26. COMPACT TRAILER JETTER

The compact **55 Series** trailer jetter from **American Jetter** features a 150-gallon tank, large wheels and a removable trailer tongue for easy storage. User-friendly controls allow for easy operator learning curves. Gas or propane Kohler engines provide up to 40 hp, flow ranges from 4 to 11 gpm and pressure to 4,000 psi. The powered reel holds up to 500 feet of 3/8- or 1/2-inch jetting hose with forward and reverse reel function and manual pullout. Options include an antifreeze system for cold climates and wireless remote for one-man operation. Low oil and water shut-off prevent engine and pump damage. **866/944-3569; www.americanjetter.com.**

27. JETTER/PRESSURE WASHER COMBO UNIT

The **Performance** line of trailer-mounted jetter/pressure washer combo units from **Amazing Machinery** are designed for easy trailering, and the large water supply tank allows technicians to jet anywhere. A rear-mounted 12-volt electric jetter hose reel and SS rear stack mounted manual pressure washer and garden hose reels provide ample hose space. They come standard with 300 feet of jetter hose, two nozzles, and a complete set of washdown accessories. The triplex ceramic plunger pump provides pressures up to 4,000 psi and flow rates up to 15 gpm. **800/504-7435; www.amazingmachinery.com.**

28. SKID-MOUNTED JETTER

The **RCJ Series** skid-mounted jetter from **Cam Spray** is offered in flows and pressures of 8 gpm at 3,500 psi and 7 gpm at 4,000 psi. It features a three-

plunger industrial pump with pulse feature powered by a 688 cc Honda engine. It comes with 200 feet of jetter hose that can also be used to supply an optional portable reel cart available with 200 or 300 feet of jet hose. It is equipped with a 35-gallon buffer water tank with float control, powder-coated heavy tube frame, washdown gun and four-nozzle set. It easily mounts in the side door of a cargo van, on a truck bed or inside a service truck. **800/648-5011; www.camspray.com.**

29. DIESEL-POWERED HYDROJETTER

The **O'Brien 7040-SC** diesel-powered hydrojetter from **Hi-Vac** features plate-mounted polyethylene water tanks that have a 700-gallon capacity. The swinger reel pivots 190 degrees, providing access to the manhole regardless of how the trailer is parked. The hydraulically actuated reel has a variable-speed control. It is powered by a 65 hp Cummins diesel with Murphy safety gauges and variable electronic throttle control. The triplex pump is rated to 40 gpm at 2,000 psi. The standard 400-foot high-impact thermoplastic sewer hose is easy to clean, maintains stiffness and is abrasion-resistant. The tandem-axle trailer has a 6-foot channel frame and is rated to carry a full tank of water at highway speeds. **800/638-1901; www.obrienmfg.com.**

30. JETTER/POWER WASHER

The **Hot Jet II** from **Hot Jet USA** features a V-twin Vanguard motor manufactured by a division of Toyota. The pump is a premium General Emperor Series that is triple V-belt driven. It generates a minimum of 8.5 gpm at 3,600 psi of either hot or cold water, and has a remote control system. It is mounted on a 5- by 12-foot diamond-plate steel deck trailer that has tandem axles and dual electric brakes for safety. The hot water deep cleans and emulsifies fats, oils and greases. The unit also can serve as an industrial-grade hot-water power washer. **800/213-3272; www.hotjetusa.com.**

31. HYDROBLASTING CLEANER

The **Hydroblaster** from **Infratech Infrastructure Technologies** is a specialized cleaning unit fitted with a General pump ranging from 4,000 to 10,000 psi at 20 gpm. Specialized cleaning nozzles are centered in the pipe to remove roots, grease and heavy pipe scale from 4- up to 60-inch pipe diameter. Enclosed in a fifth-wheel all-weather trailer, it is easily transportable. **800/533-4244; www.infratechonline.com.**



32. CONVERTIBLE WATER JET UNIT

The **125 Series** convertible water jet pump unit from **NLB Corp.** can be converted in about 20 minutes to any of eight operating pressures, from 6,000 to 40,000 psi. A wide range of flows (4.4 to 32.5 gpm) provides additional operating flexibility. It features a continuous-duty six-cylinder diesel engine (electric models are also available). It is trailer-mounted for transport to job sites, with four-wheel electric brakes, heavy-duty axles and a full DOT lighting package. All operating controls, including pressure gauge, rupture disc and bypass valve, are mounted on a separate accessory manifold for maximum protection. **248/624-5555; www.nlbcorp.com.**

33. CART-MOUNTED WATER JETTER

The **KJ-3100** water jetter from **RIDGID** clears blockages in 2- to 10-inch drainlines, with 3,000 psi working pressure at 5.5 gpm. Powered by a 16 hp gasoline engine, it is mounted on a heavy-duty, two-wheeled cart that fits through standard-sized doors and negotiates tight turns. The hose reel quickly detaches from the cart for easy loading into service vehicles and permits easy access to hard-to-reach drains. The 3/8-inch jetter hose is 200 feet long. The unit includes pulse action, which allows the cleaning head and hose to maneuver through traps and bends. The high-pressure pump is a triplex design with a corrosion-resistant brass head. The unit comes with a propulsion nozzle that helps carry the hose quickly through pipes to obstructions, and a penetrating nozzle to cut through ice and sludge. **800/769-7743; www.ridgid.com.**

34. PORTABLE ELECTRIC CART JETTER

The **SJPE-1500** from **Shark Pressure Washers & Jetters** is rated at 1.7 gpm at 1,500 psi, operating on 115-volt electricity. It comes standard with a 35-foot power cord with GFCI, and features a slide-in handle to help accommodate loading and unloading into any van, truck or car, and also allows for convenient customer transport around work sites. Its pulse action helps propel the hose through the line and around tight curves. Designed for indoor use on 2- to 4-inch pipes, it comes standard with a roll cage steel chassis, triplex pump and heavy-duty Baldor motor. It fits into tight workspaces and allows for easy one-person operation. It is ETL certified to UL-1776 safety standards. **800/771-1881; www.sharkpw.com.**

35. HYBRID HYDROJETTER

The **Model 740** hydrojetter from **Spartan Tool** features 4,000 psi at 12 gpm on a wide-track chassis towable by any vehicle. It is available in either a traditional gasoline-powered configuration or in a hybrid version that runs exclusively on liquid propane. The LP version allows a full 4,000 psi of jetting power wherever needed, even inside food processing plants and other air-quality conscious locales. It is also usable in areas that experience ozone action days or other local emission restrictions. It features 350 feet of hose and a 40 hp electric-start engine, and is available in a skid-mounted version for installation into an existing van or trailer. **800/435-3866; www.spartantool.com.**

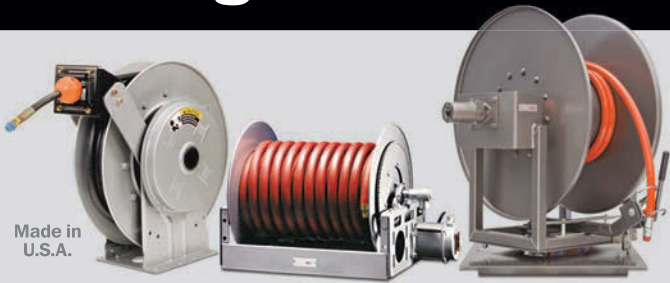
36. JETTER TRUCK

The **Camel Jet 1600** from **Super Products** is a truck-mounted, high-pressure waterjetting system that utilizes three modular tanks to carry up to 1,600 gallons of water. The tanks are made of rotationally molded polyethylene with ultraviolet stabilizers. Its Lexan Containment System means that users have additional safety protection from hose rupture or high-pressure water. It utilizes a heavy-duty, triplex continuous-flow water pump to provide up to 80 gpm and pressure up to 2,000 psi. In addition to its single-engine design, which translates to lower fuel costs, the unit offers water pump and drive system options, as a well front- or rear-mounted 180-degree rotating hose reel with a 1,000-foot capacity. **800/837-9711; www.cameleasy.com.**

37. HIGH-PRESSURE WATER JET MACHINE

Hot Shot high-pressure water jet machines from **Vac-Con** are used for removing stones, bottles, cans, grease, sludge and other debris from sanitary sewer and/or storm drainlines by the flushing action of high-pressure water. They are equipped with a noncorroding, polyethylene water tank. All controls for high-pressure water and the hose reel are located at the front of the machine for simpler operation. They are available with a 1,000- and 1,600-gallon water tank capacity. Options include variable flow, an articulating hose reel, cold-weather recirculation system, side-mounted toolboxes, an air purge system, hose footage counter, arrowboard, strobe lights, inspector cam, high-pressure spray bar and selection of nozzles. **888/491-5762; www.vac-con.com.**

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39

38. TRUCK-MOUNTED JETTER

The truck-mounted **Vector Ramjet** from **Vector Manufacturing** comes equipped with a Jet Rodder water pump. Armed with up to 2,500 gallons of water in a stainless steel tank, it delivers flows of 60 to 100 gpm at 2,000 or 2,500 psi. The water pump is a single-piston, hydraulically driven, dual-acting pump that delivers a jackhammer-action water flow, breaking through line blockages and scouring caked-on debris from pipe walls. A single operator can quickly drive to each job site to solve line problems and tackle regular line maintenance. It can be configured with either a front- or rear-mounted hose reel. The auto-wind hose guide allows hands-free operation from the control panel for a clean, tight wrap. 800/627-3171; www.vector.com.

39. SELF-CONTAINED JETTER TRAILER

The **Kohler Lombardini Series** 200-gallon, electric-start, two-wheel trailer package from **Water Cannon** ships complete. Each model is self-contained, requiring no outside power source. Every package includes two 250-foot hose reels, a poly toolbox, 15-gallon fuel tank, battery, lights, jack with wheel, safety chains, 3,500-pound capacity axle, aluminum fenders and tires with external grease fittings. The pressure washers on the package come with a rugged powder-coated steel frame, Beckett burners, high-limit over-temp protection, safety pressure relief valve, trigger gun wand, chemical injector and nozzles. 800/333-9274; www.watercannon.com. c

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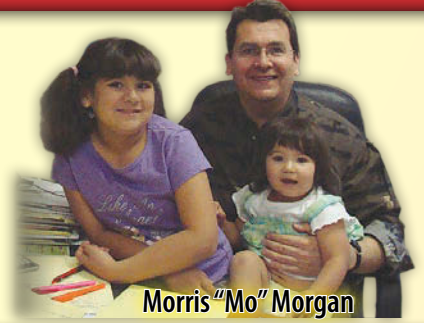
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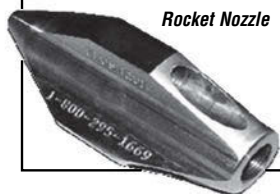
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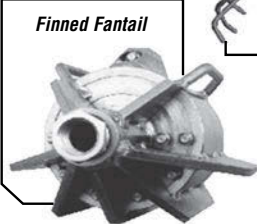
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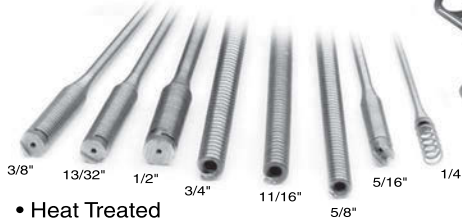
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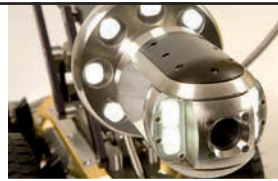
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PRODUCT OF THE YEAR 2012

Hydroexcavator loads, off-loads debris in same location

BY ED WODALSKI

The HX-12 hydroexcavator with hydrostatic blower drive and directional discharge system by Ramvac can load and off-load debris in the same location, eliminating the need to transport spoils.

“Because it’s hydrostatically driven, we can reverse the hydrostatic motor and turn the blower backward and build pressure in the debris tank,” says Brandon Shelton, western region industrial sales representative at Ramvac/Sewer Equipment Company of America. “It’s more reliable [than other drive systems], more efficient and it saves fuel.”

The 12-cubic-yard (2,500-gallon) debris tank has a debris level indicator with hydraulic dump, 50-degree dump angle and fold-down pipe rack.

Designed from the ground up as a hydroexcavator, the HX-12 eliminates unneeded space, resulting in a unit that is 3 to 4 feet shorter than comparable models for greater maneuverability. “That’s a big plus on the municipal side,” he says. “You can get this truck into locations you can’t get a lot of hydroexcavators.” Extending the truck’s versatility is the powered boom with 330-degree working radius and 17- to 22-foot extendable reach.

Applications include sensitive utility location, remote digging, frozen ground excavation, pipeline crossing, potholing or daylighting, trenching, manhole and vault cleaning as well as debris removal.

Equipped with a 4,400 cfm blower, 8-inch vacuum hose and 18-inch vacuum rating (5,400 cfm 27-inch blower available), the HX-12 has a digital vacuum display, cyclone separator and vacuum enhancer for efficient debris removal.

“In hydroexcavation, it really depends on the guy using the wand how fast he can move material,” Shelton says. “You don’t necessarily



need the biggest blower. In that respect you’re really not losing much if you have a smaller blower because it’s still very easy to move the same amount of material. The 4,400 blower can reach up to 200 feet.”

A key feature of the HX-12 is its temperature-controlled environmental chamber with 80,000 Btu heater and rollup doors (18 by 18 by 30 inches and 18- by 18- by 36-inch driver-side and 18- by 18- by 72-inch passenger-side).

“Basically, it’s an insulated, heated shroud that covers the entire water system,” he says. “It keeps all the heat inside, which is huge when you’re out working in North Dakota, Wyoming or even the northern parts of Alberta. It also keeps all of your water system components protected. A lot of times these trucks are parked outside overnight and it’s good to keep all those expensive components out of the environment.”

The HX-12 has a 400,000 Btu boiler, 1,300-gallon Duraprolene water tank, hydraulic-powered water pump via transmission PTO drive, digital water pressure display, 2.5-inch hydrant fill with 25-foot hose, air purge valve, recirculation system, hand-wash station and 75 feet of 3/8-inch hose with retractable reel.

Other features include wireless remote, climatically-sealed NEMA 4 control panel and hour meter. Accessories include four 8-inch by 6-foot extension tubes, five quick clamps, 1/4-inch pipe coupling and an 8-inch by 6-foot digging tube. A digging wand kit includes two 7-foot digging wands with three 5-foot extensions, wash-down gun, fan nozzle, hydrant wrench and 25-foot fill hose. 800/323-1604; www.ram-vac.com.

PEARPOINT VIDEO SYSTEM WITH BUILT-IN BATTERY

The P340+ flexiprobe pushrod video inspection range with built-in battery option from Pearpoint, a unit of SPX, adds onboard lithium-ion battery power for a full day’s usage. The push-button fuel gauge indicates remaining power, even with the controller switched off. 800/688-8094; www.radiodetection.com.



thermal pump protection, unloader valve and high-pressure relief valve. The unit also will automatically shut down if low oil levels are detected. 814/445-3400; www.steamjenny.com.



JENNY PRODUCTS DIRECT-DRIVE PRESSURE WASHERS

Steam Jenny direct-drive, cold-water washers from Jenny Products are powered by 9 or 13 hp Honda GX Series engines and feature a triplex plunger pump. Available in four models, the pressure washers are available with ratings from 3,000 to 4,000 psi and flow from 3 to 4 gpm. Other features include



WOHLER INSPECTION CAMERAS

Visual inspection camera systems (models VIS 250, VIS 350 and VIS 400) from Wohler USA have USB, VHS and SD card recording features. The VIS 250 is designed for tight spaces and analyzing household wastewater pipes 1 1/2 inches and larger. It negotiates bends and turns. An integrated locator transmitter pinpoints damage.

The VIS 350 features a home function to maintain orientation that indicates the position of the pan-and-tilt camera head. The camera system VIS 400 weighs 3 pounds and has a pan-and-tilt head, carry strap and pouch with antiglare protection. The cameras work with Wohler’s L 200 locator to target trouble spots through asphalt and concrete. 978/750-9876; www.wohlerusa.com.



RAVEN PLUMBER'S PILLOW PRO

The Plumber's Pillow Pro from Raven Products features an ergonomic wedge design with high-quality foam, 600-denier polyester cover and bright yellow safety color. The 27-inch long by 14 1/2-inch wide and 3- to 2-inch deep pillow offers back and neck protection from cabinets, cold, hot, wet and sharp surfaces. 888/467-2836; www.ravenproducts.us.

RIDGID SEESNAKE WITH SELF-LEVELING HEAD

The SeeSnake Max rM200 camera system from RIDGID with self-leveling head takes the guesswork out of inspections, providing clear, right-side-up images or video. 800/769-7743; www.ridgid.com.



MEAN GREEN INDUSTRIAL-STRENGTH DEGREASER

Mean Green Industrial Strength Cleaner & Degreaser from CR Brands is a blend of biodegradable detergents formulated for challenging fleet and equipment washing applications. The cleaner removes dirt, tar and road grime from vehicles and trailers and can be used for spot removal on carpets, seats and



dashboards. It also degreases equipment, concrete and asphalt. It can be used with pressure washers and cleans with no environmentally harmful solvents. www.meangreendegreaser.com/industrial-strength.

BUTTERWORTH INDUSTRIAL TANK CLEANER

The unidirectional BC tank cleaning machine from Butterworth creates a two-nozzle, cone-shaped circular cleaning pattern with impact impingement. It is designed to remove machining oils from steel surfaces. 281/821-7300; www.butterworth.com.



ROTHENBERGER ROCAM 3 INSPECTION CAMERA

The ROCAM 3 multimedia inspection camera from ROTHENBERGER USA is designed for inspection, locating and documenting obstructions or damage in pipes from 2 to 12 inches in diameter. Features include removable control panel and waterproof durable frame. The camera includes a removable 10.4-inch display and control panel with on-screen distance counter. The 1.58-inch, self-leveling camera provides still and video images. 800/545-7698; www.rothenberger-usa.com.



GUARDAIR FLAME PATTERN SIPHON SPRAY GUN

The flame pattern siphon spray gun (model 79SG012F) from Guardair Corp. features a flame design on its 12-inch aluminum extension. The gun uses compressed air to produce a high vacuum suction that delivers up to 12 gph of liquid spray. Applications include solvents, oils, cleaners, disinfectants, insecticides, mold release agents, coatings and degreasers. The gun has an adjustable nozzle tip to control volume and spray pattern. Other features include cast aluminum body, OSHA compliant, 1/4-inch FNPT inlet and 6-foot siphon hose with sinker. 800/482-7324; www.guardaircorp.com.



DITCH WITCH UTILITY TRACTOR

The RT120 Quad utility tractor from Ditch Witch is designed for installing large diameter pipe on challenging job sites. The tractor has a heavy-duty undercarriage with tilt frame, enabling it to dig a vertical trench on uneven ground. The Quad Track System (each track frame weighs 1,500 pounds) provides a low center of gravity for increased stability. Chevron-pattern tracks provide traction in wet conditions and on slopes. The four-wheel-drive tractor with 15.5 inches of ground clearance is powered by a Deutz diesel engine and equipped with a three-speed, shift-on-the-fly transmission. 800/654-6481; www.ditchwitch.com.



VACTOR USER-FRIENDLY CONTROL SYSTEM

The user-friendly control system on the midsize HXX Prodigy vacuum excavator from Vactor Manufacturing, identical to controls on the full-size HXX HydroExcavator, has an ergonomically designed control box located curbside for easy access and operator safety. The control system is enclosed in an environmentally protective aluminum box. Controls include tachometer and hour meter for chassis and blower, temperature indicators, water system on/off with multiflow, complete boom and body dump functions and E-Stop. The Prodigy, with wireless remote, also has an extendable boom with 320-degree rotation. A telescopic boom is optional. 800/627-3171; www.vactor.com.



ENZ USA BULLDOG ANTIPLAST NOZZLE



The Bulldog Antiplast nozzle from ENZ USA is designed to prevent blowing toilets when cleaning sewer lines near home installations. By reducing water pressure through toilets and vent traps, the nozzle lowers the risk of pressure equalization, which results from negative pressure ahead of the nozzle or excess pressure following the nozzle if installations are not correct or venting is not working properly. 888/369-8721; www.enzusainc.com.

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INDUSTRY NEWS

PICOTE NAMES LMK TECHNOLOGIES EQUIPMENT DISTRIBUTOR

Picote Oy of Porvoo, Finland, named LMK Technologies its North American distributor for trenchless drain rehabilitation equipment and tools, including the Smart Cutter system for the removal of tuberculation, tree roots and the reestablishing of branch lines in building drains and sewer pipes.

VANAIR SPONSORS WARRIORS FIRST FOUNDATION

Vanair Manufacturing is a core sponsor of the Warriors First Foundation Annual Charity Run & Benefit. Employees of Vanair and locals helped raise awareness to save our troops from post-traumatic stress disorder (PTSD) and traumatic brain injury (TBI) in August. The Warriors First Foundation kicked off their Save Our Service Members Campaign which they hope to raise money to assist the families and military personnel.



Ken Mignogna

TIGRE USA NAMES NATIONAL SALES MANAGER

Tigre USA named Ken Mignogna national sales manager – waterworks. He will be responsible for the growth of the company's municipal products, including SDR 26 gasketed, SDR 35 gasketed and SDR 35 solvent weld PVC fittings.

WASTEQUIP NAMES VICE PRESIDENT-GENERAL MANAGER

Wastequip named Tim Phanco vice president-general manager for its technical products division. He will manage operations at all technical facilities that manufacture compactors and balers.

NU FLOW OPENS LAS VEGAS OFFICE

Nu Flow Technologies opened a Las Vegas, Nev., office in the Regency Towers and expects to expand into a larger facility. Technicians have been working on rehabilitating drain systems for casinos, hotels, shopping malls and high-rise condominiums in the city.

AQUATHERM RANKS AMONG FASTEST-GROWING COMPANIES

Aquatherm, distributor of German-manufactured polypropylene-random (PP-R) pipe systems, ranks 46th among the top 100 construction companies on Inc. magazine's 500/5000 list and 1,617 overall. The company has a three-year growth of 244 percent.

COXREELS LAUNCHES NEW WEBSITE

Coxreels launched its new website, www.coxreels.com. The site features a streamlined user interface and tools for product searches and selection, as well as literature and catalogs.



EPIPE RECEIVES PATENT FOR REDUCING LEAD LEACHING

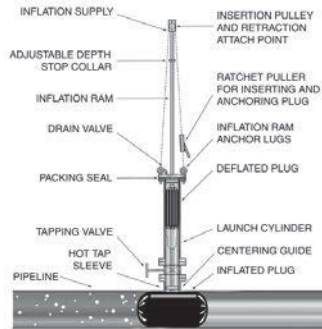
Pipe Restoration Technologies received U.S. patent 8,524,320 for its ePIPE in-place lining technology that reduces lead from pipes and other inline lead contributors from leaching into drinking water. The process reduces lead levels below the World Health Organization's guidelines of 10 ug/L (10 ppb). c

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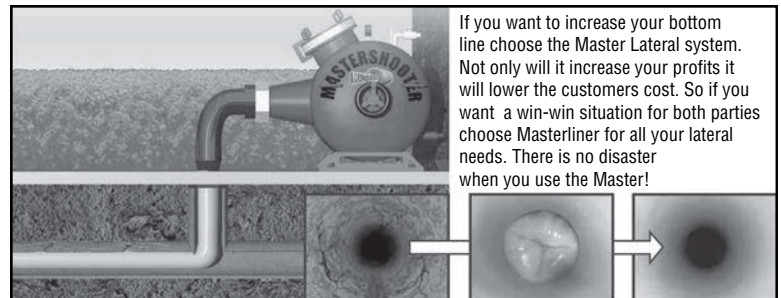
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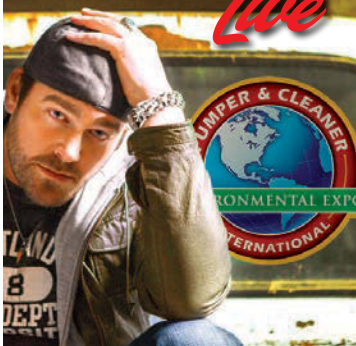
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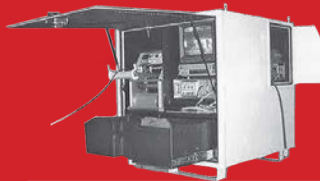
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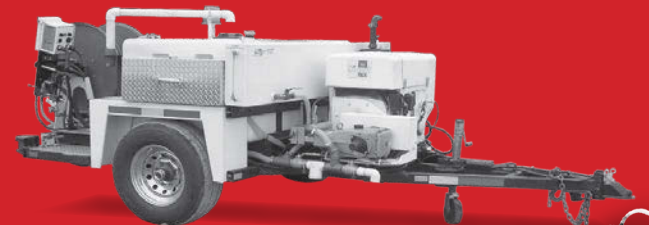
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