

January

2009

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Cuyahoga County (Ohio)
takes a progressive approach
to onsite regulation Page 20



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COVER STORY

They Were Pioneers

By Gil Longwell

ON THE COVER: The onsite program in Cuyahoga County, Ohio, includes a complete onsite system database, homeowner outreach and education, and competency testing for system installers. Here, staff member Laura Travers tests water quality with a YSI 556 Multi-Probe System. (Photography by Larry Bennet)

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- Basic Training: Site selection and staking

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That Extra “Degree”

Never underestimate the level of effort it takes to go from good to great. And don't underrate the benefits of doing what's necessary to get there.

By Ted J. Rulseh

There's a popular motivation program out there known as 212°. The metaphor behind it is that at 211 degrees, you have hot water, and at 212 degrees — just one degree higher — you have steam, and the power to drive a locomotive.

In a similar way, this program implies, that extra degree — in service, courtesy, effort, professionalism — will power you far ahead of your competitors.

Sorry, but I'm too much the science guy, and have too much business experience, to buy the metaphor. Just one degree is not enough. To attain real superiority takes tremendous effort. Of course, making that effort is well worth it.

Checking the science

What's wrong with the 212° concept? It falls apart based on the facts. Yes, at 211 degrees you have only hot water. But at 212 degrees, hot water is still all you have. To turn that 212-degree water to steam

takes something else very significant.

If you have one gram (or one milliliter) of water at 211 degrees, it takes just one calorie to raise it to 212 degrees. But it takes 540 more calories — something called the heat of vaporization — to turn that water into steam. In other words, it takes more energy to make the steam than it did to heat the water from 32 degrees all the way to 212.

And how does that relate to business? Well, doing just a little better, working just a little harder, won't get you very far ahead.

Think of your business and your best competitors as being around 211 degrees. Turning yours up a degree might mean answering the phone with a little more courtesy. Or washing your trucks and excavating equipment a little more often. Or spiffing up your crew members' uniforms. Or putting some good educational material on your Web site.

Those are all good things, of course. Your customers may notice,

and your business may do better. But those are also things your competitors can easily duplicate. So the edge you gain today can easily be gone tomorrow.

Applying the heat

No, to gain a real and lasting edge, you need to think not in single degrees but in terms of heat of vaporization — a large invest-

ment of new energy and resources that your competitors can't or won't match. it's installed, they understand how it works and how to spot signs of trouble? What about creating an incentive pay plan for your team members that enables them to earn more than is typical in your market — so you keep your good people and attract the best as you grow?

You get the idea. Now you're doing things that take work, that take dollars, that take leadership.

To gain a real and lasting edge, you need to think not in single degrees but in terms of heat of vaporization — a large investment of new energy and resources that your competitors can't or won't match.

ment of new energy and resources that your competitors can't or won't match.

What might that mean in practical terms? Well, suppose you started by sending every member of your team, in rotation, to one major industry trade show every year. What if you made sure all your people earned the highest level of certification available in your area?

Suppose you decided to learn the ins and outs of advanced treatment systems so that you could win jobs your competitors could not. What about developing a planned maintenance program as part of your package so that you could stay with customers for the long term?

How about instituting a “before and after” education program for every homeowner, so they know upfront what kind of system you plan to install and why, and once

Now you're creating space between yourself and your competitors, and it's space they can't close just by making a few small changes.

Seeing the rewards

If you do the big things, as well as the cosmetic things that make your company look, feel and act more professional, you set yourself apart in a serious way.

The point is: Don't be fooled by simplistic concepts. In winning at business, as in heating water, you don't get something for nothing, or a lot for a little. Building a big edge takes a big infusion of energy.

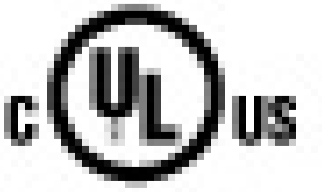
The good news is that big energy can bring big rewards. The effect on your revenue, on your prestige, on your satisfaction as an owner, on your profits, may be like, well, the difference between mere hot water and steam. ■

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Good News on Meters

I was pleased to note in the November 2008 issue of *Onsite Installer* that both the editor and Albert Royster are providing publicity on the value of measuring the sewage flow into an onsite treatment system.

I have been suggesting this for many years in my Answer Man column in *Pumper* magazine, but my suggestions seem to have generally fallen on deaf ears. There certainly does seem to be reluctance by the onsite industry toward measuring home sewage flows.

I believe hydraulic overload is a common reason for what is often called the failure of onsite sewage treatment systems. I believe most homeowners will recognize that there is a limit to the amount of sewage that can be sent to the septic tank. Education will certainly need to be a part of a program for homeowners with water meters.

The amount of water that carries sewage to the onsite system can be measured easily and inexpensively. A water meter with plus or minus one percent accuracy is entirely adequate and relatively low in cost. If all the water used in a house goes through a water conditioner, then the meter is simply placed on the inlet line to the conditioner.

In other situations, the water pipes to the outside sill cocks and other water uses need to be isolated from the water meter. This can easily be done by the plumber when installing the water piping system. Existing piping systems can usually be modified to meter only the water that is used for household purposes.

At one time, I checked with sanitary engineers about measuring the actual sewage flow from a home. I was informed that to measure an intermittent and variable flow from a single household would be very difficult, expensive and probably not too accurate. Also, there would be many problems with cleaning and maintenance that a homeowner would not be prepared to do. Their recommendation was to meter the water carrying the sewage that ultimately ended up in the sewage tank.

Another benefit of metering the water use and sewage flow from individual households would be the ability to evaluate new technologies for distributing effluent. Water meter readings would tell if the soil absorption system really could be downsized.

I hope *Onsite Installer* continues to provide publicity to the industry on the value of having a water meter on each onsite treatment system. Information obtained from water meter data will be valuable to future design procedures in the industry.

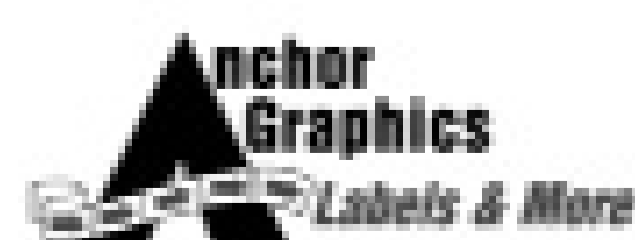
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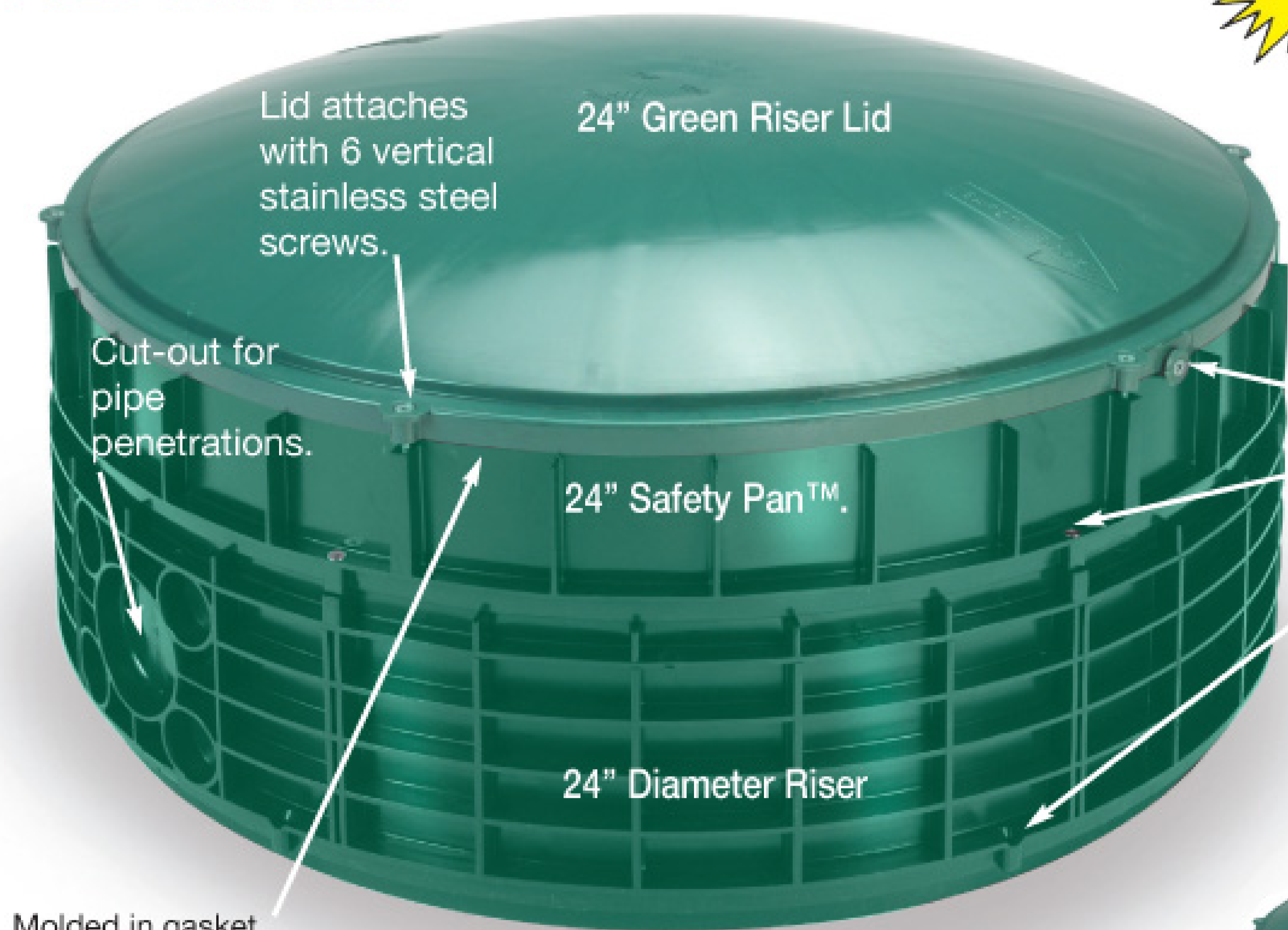
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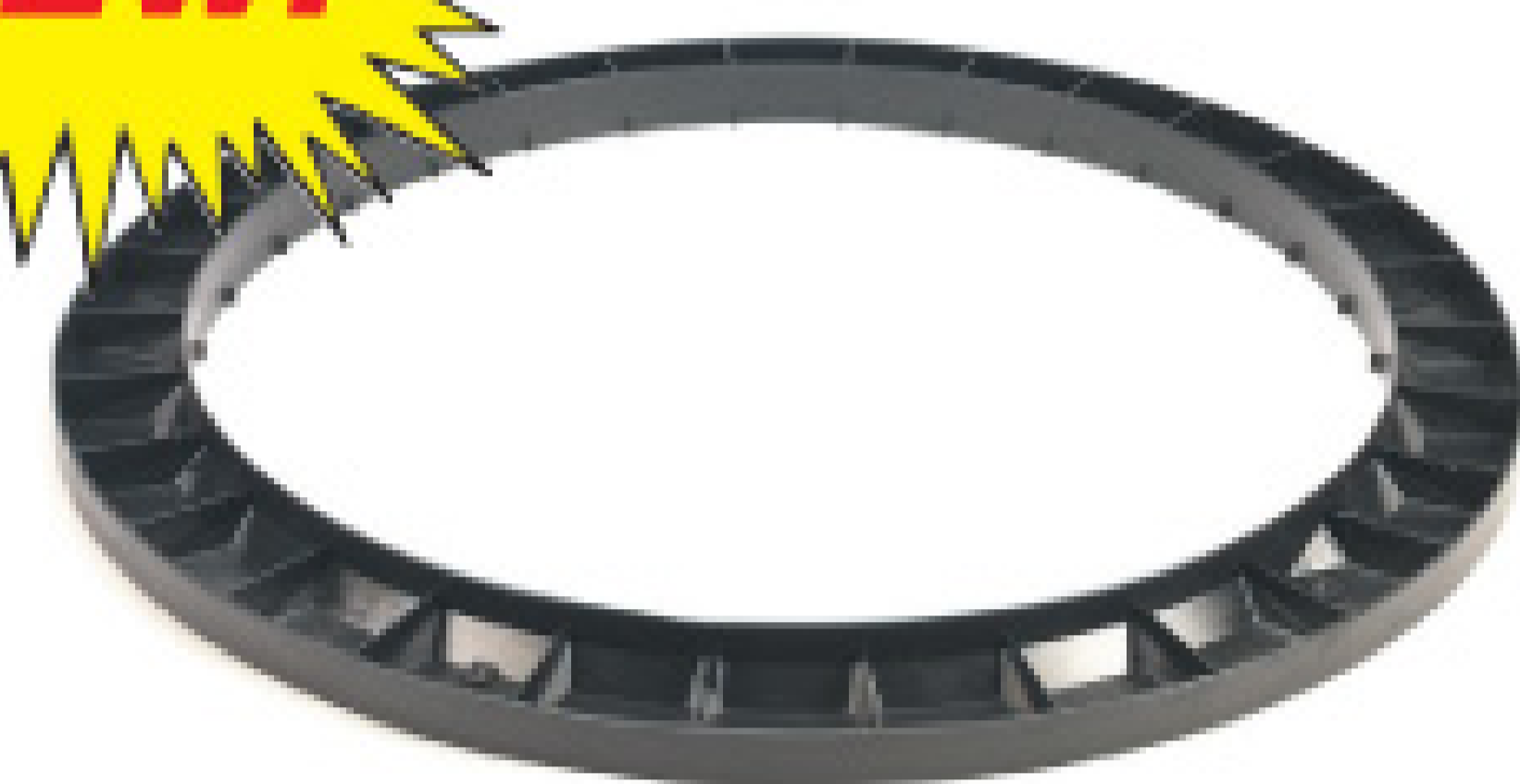
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5,617,679 &
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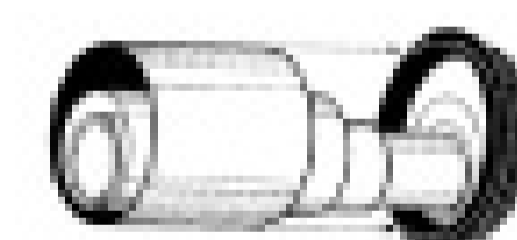
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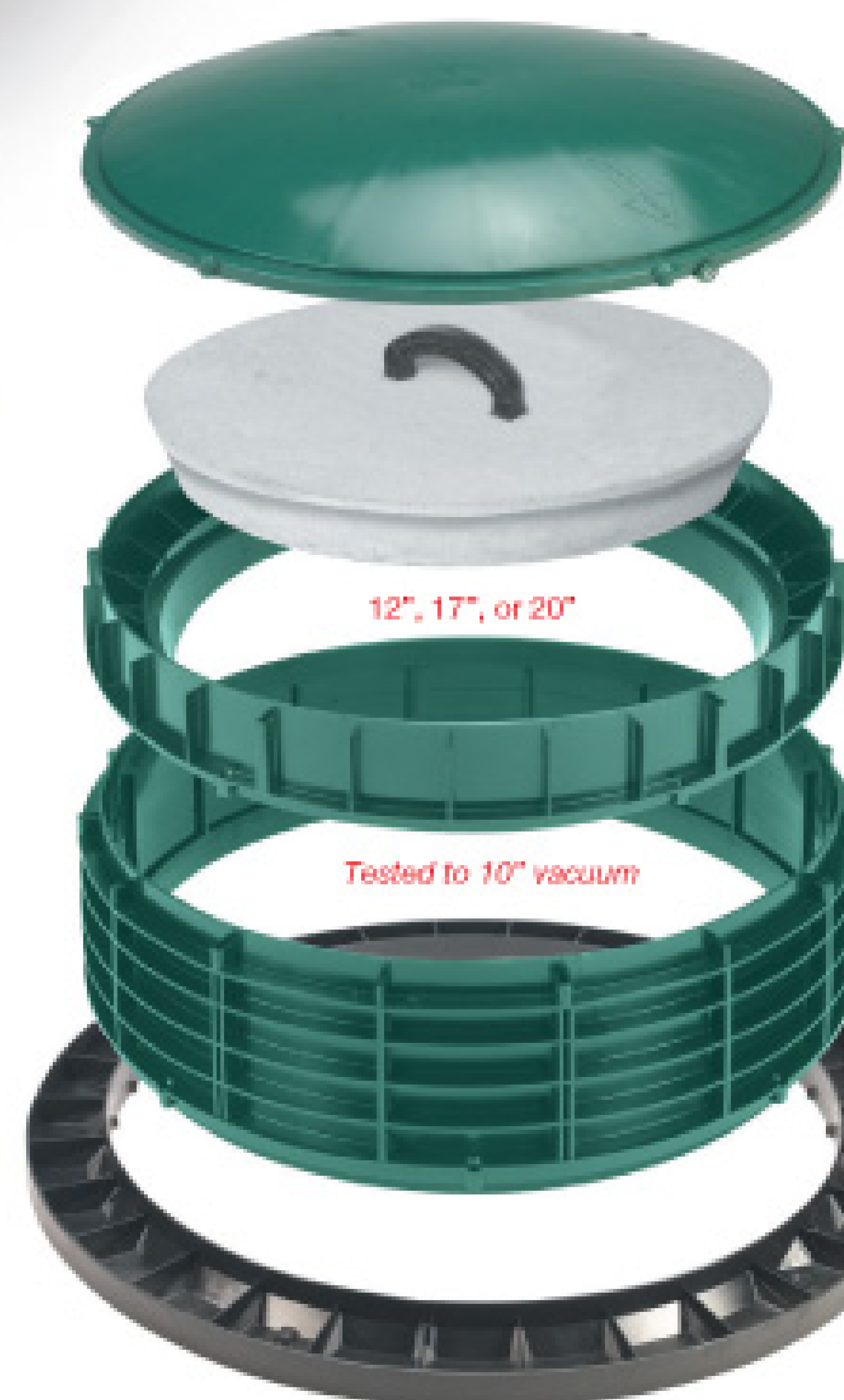


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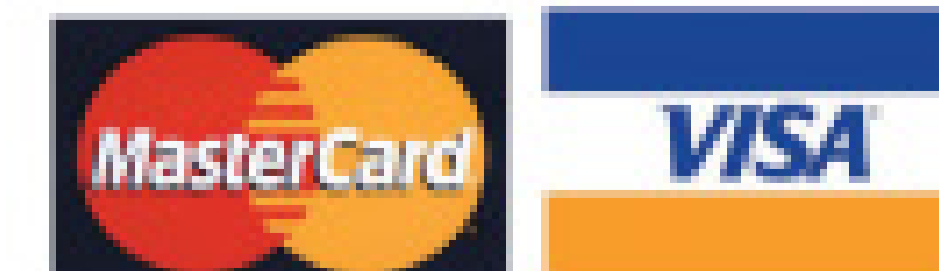
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4,951,914,
5,624,123
& 5,711,536;



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Jim Anderson and David Gustafson are with the University of Minnesota's widely recognized onsite wastewater treatment education program. Jim is director of the university's Water Resources Center, and Dave is the university's extension onsite sewage treatment educator. Readers are welcome to submit questions or article suggestions to Jim and Dave. Write to ander045@umn.edu.

Finishing the Job

Take care to use the proper fill materials on top of your systems, and be sure to use quality topsoil to provide a seedbed for grass cover

By Jim Anderson, Ph.D., and David Gustafson, P.E.

In previous articles, we have discussed the importance of locating an onsite system in an area where you can establish a good grass cover. This is especially important in cold regions, because the grass cover allows snow to accumulate and provide natural insulation against freezing.

It is also important to protect the area from any vehicle traffic such as the parking of cars or recreational vehicles, including four-wheelers and snowmobiles. This prevents compaction that could reduce oxygen exchange. It also prevents the penetration of frost to a depth that it will interfere with system operation. We have also discussed the need to locate the system so that it is not subject to surface water runoff from any sources, such as driveways, roofs and patios.

Quality cover

For typical systems with soil treatment trenches and gravity dis-

tribution, the cover over the top of the system consists of spreading the material excavated from the trenches. If this is what you are considering, then recognize that you need to prepare a proper seedbed to enable grass to grow.

It is not enough just to backfill the area, especially if the soil you excavate and spread leaves large clumps on the surface. The clumps indicate voids in the backfill over the system. That can result in excessive water infiltration into the system and create pathways when temperatures are cold for freezing to occur.

We cannot begin to count the times we have seen sites where the installer did an inadequate job of finishing the system, and as a result the system had problems. Often, you must apply additional topsoil over the system to provide the seedbed.

One thing to remember is that soil you excavated from the trenches



Here, a mound system has been covered with topsoil.

We cannot begin to count the times we have seen sites where the installer did an inadequate job of finishing the system, and as a result the system had problems.

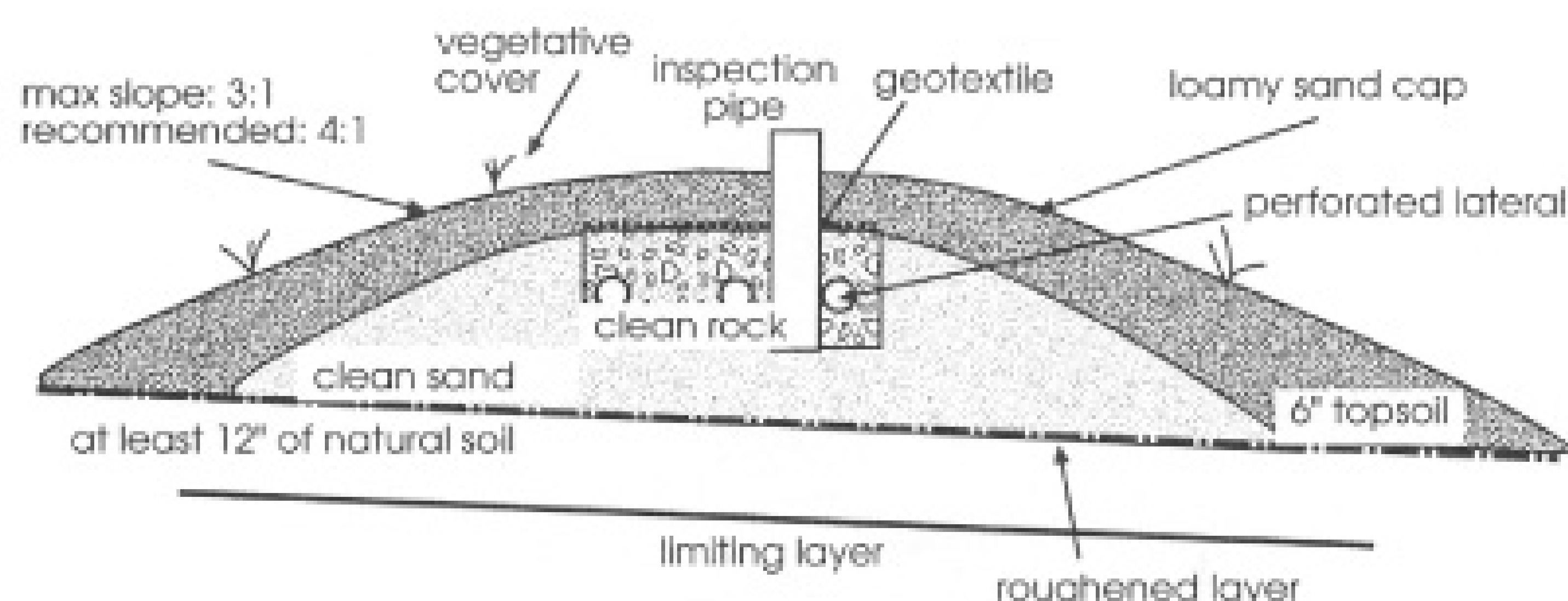
has been replaced by rock or some other drainfield media. The accompanying diagram, provided from an early onsite manual from the University of Minnesota, shows the amount of soil replaced by rock in terms of the additional soil cover needed.

You need to consider this when determining the amount of additional topsoil you require for the seedbed. You can determine the additional topsoil you need by making a simple volume calculation. The lawn area covered by the system in square feet, multiplied by the depth of topsoil required in feet, gives you the cubic feet of soil required.

So, if the system has three 100-foot-long trenches, 8 feet on center, the area would be roughly 24 feet x 100 feet = 2,400 square feet. Now, if you want 6 inches of topsoil over the area, that would be 2,400 square feet x 0.5 feet = 1,200 cubic feet of topsoil. Dividing 1,200 cubic feet by 27 cubic feet per cubic yard gives you 45 cubic yards of soil needed.

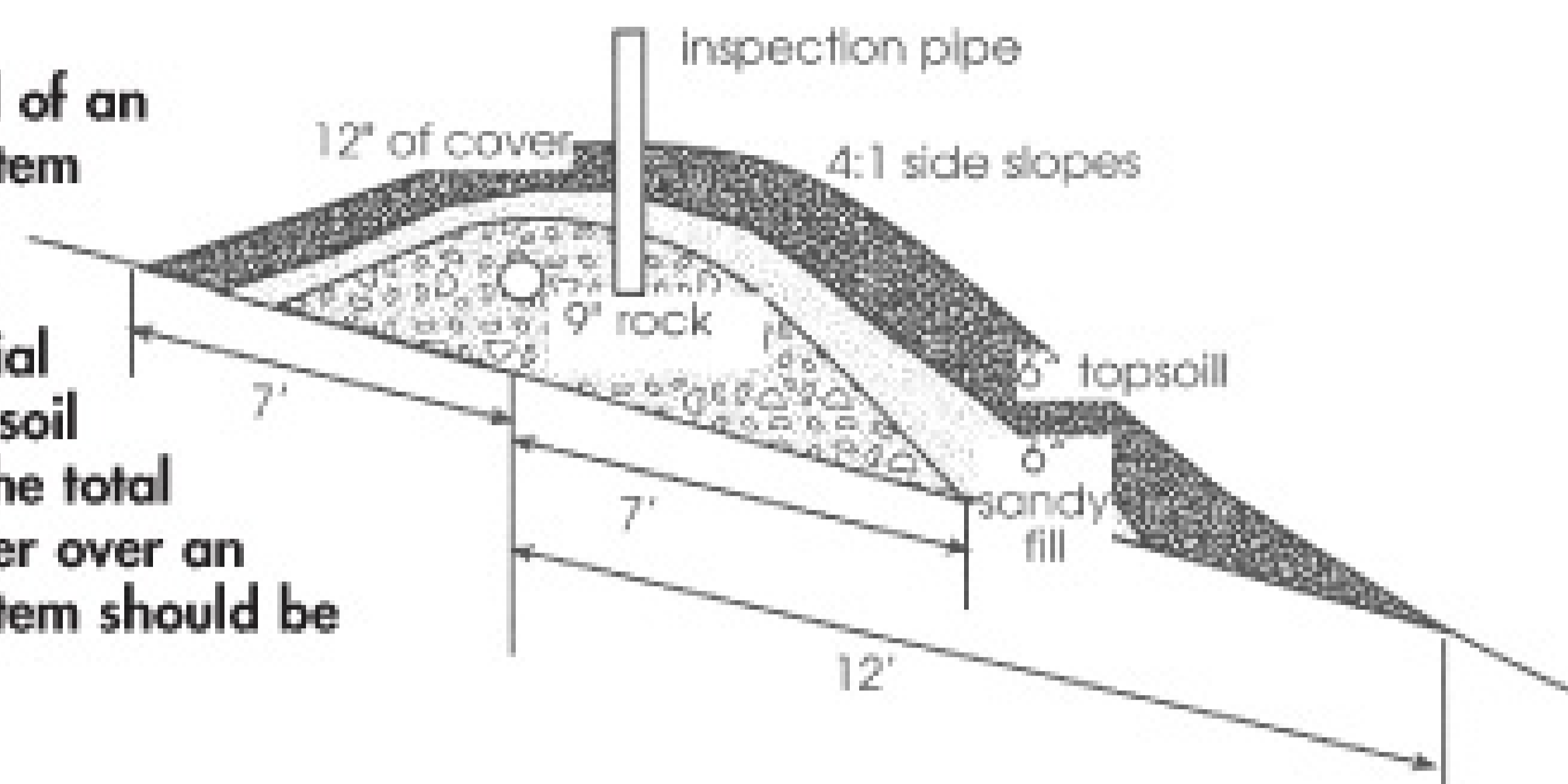
Choosing your cover

We're also asked what type of cover to use on mound or at-grade systems. For mounds, a sandy loam soil should be placed on top of the geotextile fabric over the rock to a depth of 12 inches in the center of



This diagram shows the amount of soil replaced by rock in terms of the additional soil cover needed. (Images courtesy of University of Minnesota)

The rock bed of an at-grade system should be covered with sandy material and then topsoil and grass. The total depth of cover over an at-grade system should be 12 inches.



the mound, and to a depth of 6 inches on the sides. The purpose of this sandy loam cap is to avoid undue soil compaction, so that the pore spaces are maintained, and soil air and moisture can move freely. You can then cover this with a loamy topsoil.

One important note about topsoil: It should be a mineral soil with about 4 to 5 percent organic matter, rather than excavated peat or organic soil. When applied as top dressing, peat will dry out and break down or decompose, leaving inadequate soil cover. Grass then will have a hard time establishing itself, and when the peat dries, the grass

will not survive. The peat can also be blown away, reducing soil cover.

For an at-grade system (as shown in the diagram) you should cover the rock bed with sandy material — it does not need to be the same clean sand used in the mound construction. This should be covered with topsoil and grass vegetation established. The total depth of cover over an at-grade system should be 12 inches.

If you follow these examples, your customers will appreciate the finish of the system, and the system will perform better over the long term. ■

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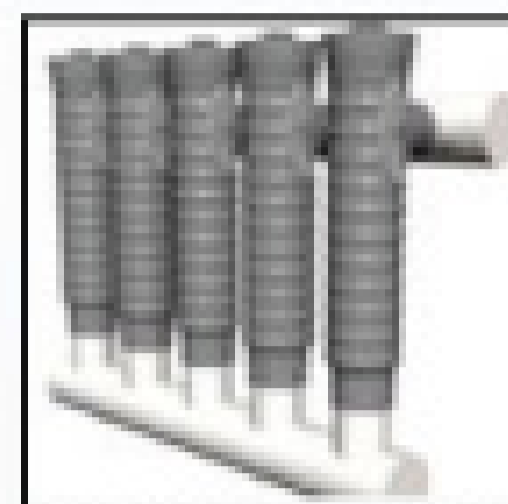


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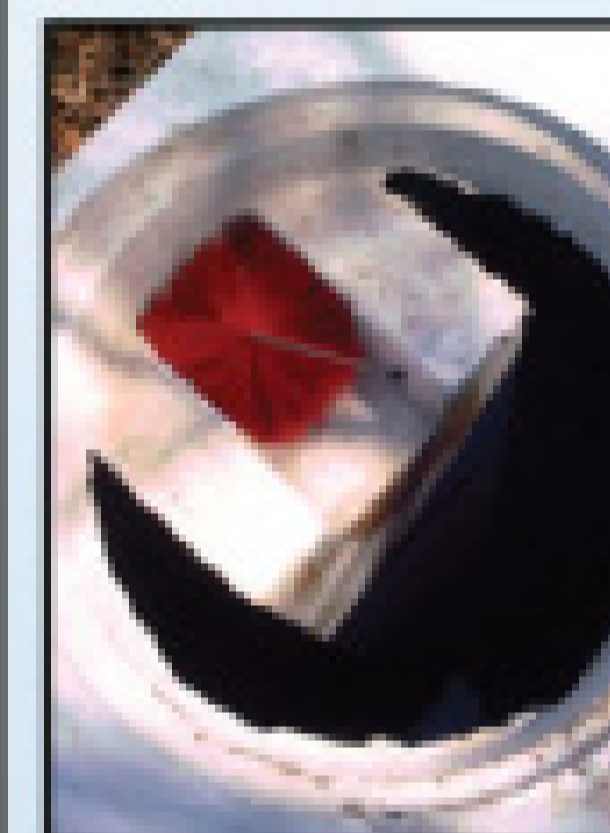


US Patent# 5,885,452
CAN Patent# 2,237,751

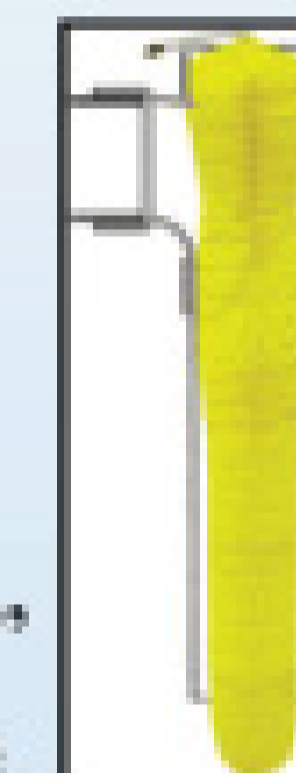


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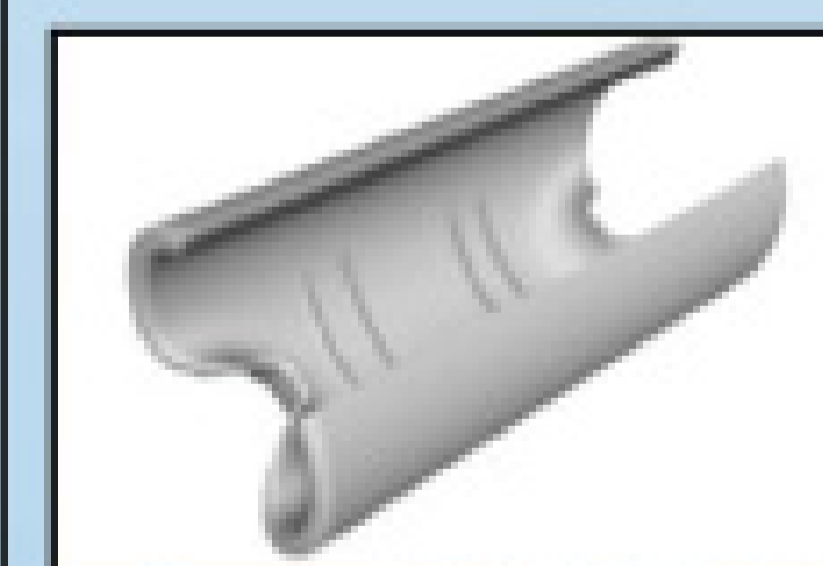
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- * Available insulated or easy to do so yourself
- * Available with self locking web
- * Low profile to allow for lawn mowers, etc.

Orifice Shields

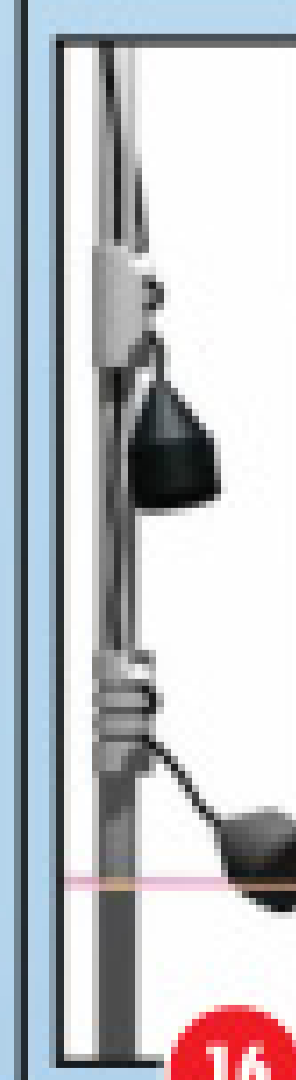


Patent# 6,167,914

- * **The Original Orifice Protector**
- * Sturdy design for all applications
- * Easy to position
- * Will not fill with gravel in any position
- * Large discharge area that does not clog
- * Large open area
- * No moving parts to stick
- * Will remain in place, even without glue



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The Business Connection

Seminars during the 2009 Pumper & Cleaner Expo focus on practical business information that helps build a competitive edge

By **Scottie Dayton**

A track of seminars presented by the Leaders Resource Network (LRN) highlights the business education lineup at the 2009 Pumper & Cleaner Environmental Expo International, Feb. 25-28, in Louisville, Ky.

The LRN program is part of Education Day on Wednesday, Feb. 25. The complete program includes 52 seminars presented by industry experts across the full range of environmental service industries. Seminars are also offered on Thursday and Friday mornings. A summary of the LRN program follows. For a complete seminar schedule, see the Expo pages in this issue of *Onsite Installer*.

It's All About Value – How to Become a Value Leader in Your Market

Kelly Newcomb, Director of the LRN

Being successful in business requires leadership focused on providing value to customers and the marketplace. Attendees will learn how to assess their value to customers and determine their value propositions to specific types of customers. Newcomb shows how to create a plan to communicate and deliver that value, and engage a team of employees in delivering customer value.

Credit Collections: Getting Paid

Robert Bernstein, Managing Partner, Bernstein Law Firm, P.C.

Understanding the costs of easy credit and ways to avoid it can improve profit, enhance customer relationships, and align sales and credit functions.



Seminars drew attendees at the 2008 Pumper & Cleaner Environmental Expo International in Louisville.

“An effective credit policy depends on tools, policies and training that help companies define the standard and expectations with customers and clients, and protect them in the event of slow pay,” says Bernstein. His presentation focuses on the Get P.A.I.D. System, a comprehensive program that helps companies assess and manage their credit and accounts receivable.

The Value of Internet Marketing – How to Use the Internet to Gain More Business

Greg DeVitto, Co-owner and Co-founder of 3 Brothers Marketing Inc.

The Internet changed the way the world does business. Participants will learn how to use the Internet to help their businesses grow. “I will show them how to capitalize on the Internet as a primary method for gaining and keeping customers,” says DeVitto. “I’ll also talk about creating a plan to improve Internet marketing, and how to engage employees and customers in using the Internet as an effective service tool.”

Selling Value

Frank Taciak, Owner, C.A. Taciak & Sons

Arguably, nothing happens until the sale is closed. Taciak’s seminar will address how to grow and develop sales through a disciplined, hands-on sales process. “I will explain how to sell more than price and obtain more referrals,” he says. “Everyone will leave with proven marketing techniques for closing the sale and building business.”

How to Add Value to Every Customer You Have and Every Future Customer You’ll Meet

Ray Luden, Northeast Region Manager, Polyjohn Enterprises Corp.

In a competitive market, the only thing differentiating one company from another is the value delivered and the extra value it continues to create. “My practical session will have a big impact on improving the value of customer service and differentiating a business from the competition,” says Luden. “I’ll show how to create and market value-added services, be paid for them, and motivate employees to back the effort.”

How to Determine Your Operating Costs

Don Shultz, Controller, Newcomb Marketing Solutions

While many business owners are experts in service and customer care, they often don’t know how much each service call costs or how to quickly figure costs for a special service event. “I’ll explain when it’s less expensive to pay overtime and when to hire a new person,” Shultz says.

Coach’s wisdom

Scott Hunter, a business coach and speaker, is also part of Education Day. He founded The Hunter Partnership Alliance, which helps businesses develop relationships and teamwork in the workplace. His workshops are:

The Art of Personal Sales. In this two-part program, Hunter will explain the art of creating meaningful relationships with customers and prospects and maximizing likelihood of closing the sale.

Yes, We Have to Work Together, But Does it Have to be so Painful? Hunter will explain how to work around personality conflicts, power struggles, unspoken hidden agendas and misunderstandings and maintain great relationships with people at work.

The Art of Being Outrageously Successful. This workshop reveals that what individuals do, know, and how hard they work have little effect on

success. Hunter will cover principles such as the importance of building relationships and the importance of vision and integrity.

Other business presentations at the Expo will include three seminars during the Friday morning session:

- Preventive Maintenance Agreements for Commercial Accounts by Amos Barcus of Spartan Tool LLC.
- First-Rate Customer Service Wins Customers for Life, by Donald MacDonald of A Corp/Rooter-man.
- Insurance and Risk Management, by Mark Herring of Heffernan Insurance Brokers.

To find out more about the education program or any other Expo offering, visit www.pumpershow.com. Register online or by calling 800/257-7222. ■



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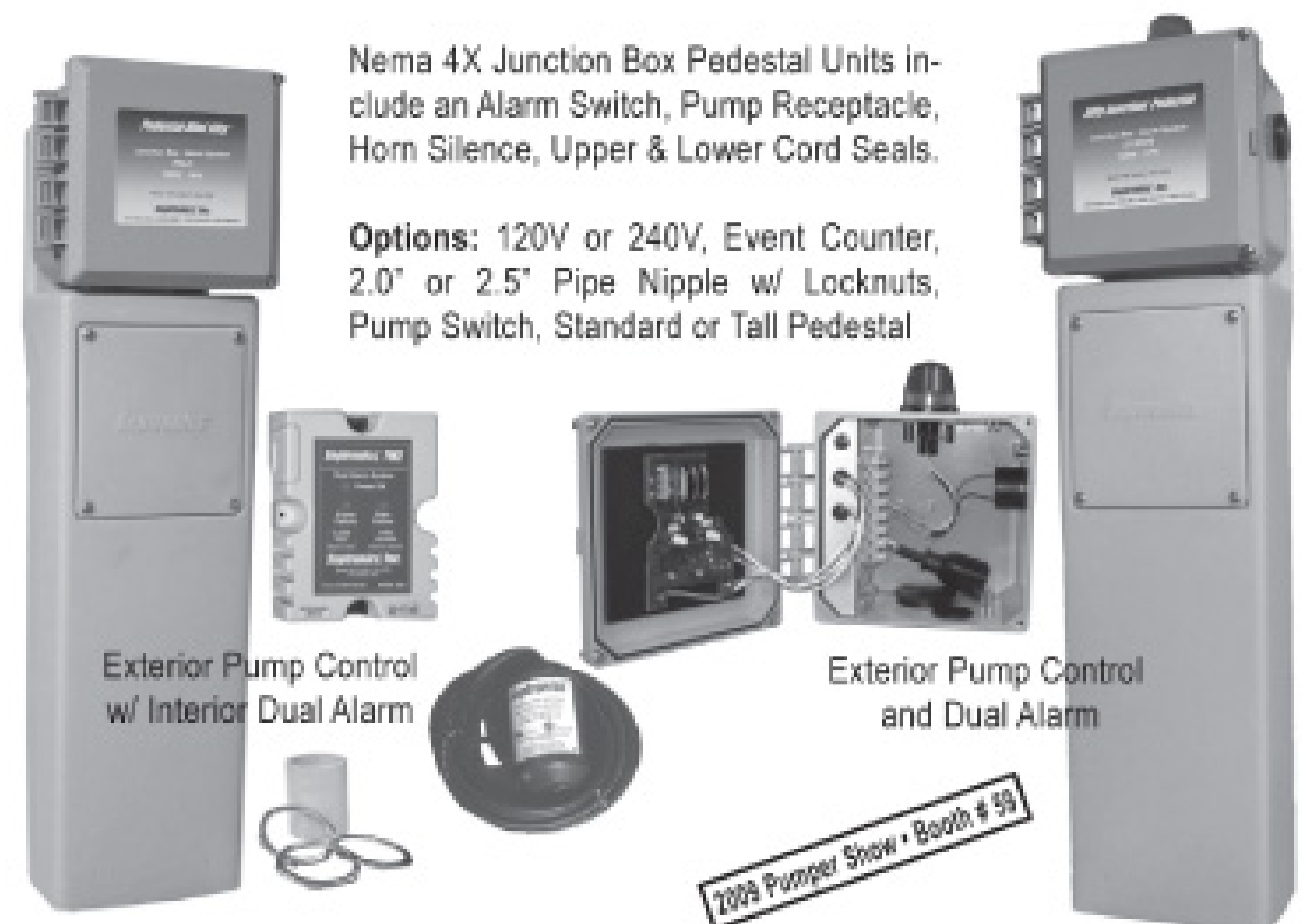
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Machine Matters is designed to help readers get the most from excavators, backhoes, skid-steers and other mechanical equipment through proper maintenance, operation and financial practices. Readers are welcome to submit ideas for this column and can send them to Ted J. Rulseh, editor, by calling 800/257-7222 or e-mailing editor@onsiteinstaller.com.

Different by Design

Variations in undercarriage technology reflect different ideas on what makes a good-performing compact track loader

By Greg Northcutt

To the untrained eye, one compact track loader looks very similar to another. But look around underneath several makes and you'll see some significant differences in how manufacturers design their undercarriages.

Often, these differences reflect different goals in terms of performance, durability and maintenance. One manufacturer, for example, may build the frame specifically to fit the undercarriage. Another may adapt its skid-steer loader frame to the undercarriage of a compact track loader.

Still another may purchase the undercarriage used on its machines from a supplier, rather than design its own. Other differences can range from the number of idlers and position of sprockets to the routing of hydraulic hoses and the amount of open area to facilitate

cleaning out debris.

Most manufacturers attach the undercarriage directly to the frame of the machine, but several suspend the undercarriage to provide a smoother ride. Bobcat, on the other hand, offers a new optional system that suspends the mid-rollers by high-strength steel leaf springs to reduce vibration and improve operator comfort.

The rollers are made of forged steel, and the springs are shot-peened steel for strength and durability. This suspension system requires no greasing or adjusting, and the rollers are permanently sealed and lubricated with synthetic oil, eliminating regular maintenance to this part of the system.

Here are more examples of differences in undercarriage design offered by several compact track loader manufacturers.



Placement of the lower roller of the Takeuchi undercarriage directly below the drive sprocket, instead of farther to the rear, helps extend the life of the track.

Caterpillar

Caterpillar offers two types of undercarriages. The company's multiterrain loaders (MTLs) are equipped with dual-level suspension — both the undercarriage and the mid-rollers are equipped with a suspension system — and all-rubber tracks.

The new line of compact track loaders (CTLs) features a fully suspended steel undercarriage and a steel-embedded rubber track. Both machine types have four independent torsion axles that absorb shock to the undercarriage, machine and operator.

"The suspension system offers a smooth ride, even at high speeds, along with better load retention and greater productivity," says Pierre-Laurent Verdon, industry

manager of skid-steer, multiterrain and compact track loaders.

"The steel bars in the rubber tracks engage the sprockets and steel components for extended life in aggressive applications," he says. "The steel embeds provide a rigid support for the entire width of the track and excellent durability in a wide variety of applications. Continuously wound cables hold these embeds in place and provide tensile strength to prevent the track from stretching.

"Multiterrain loaders are extremely productive," Verdon notes. "Contractors who use them a lot on sensitive surfaces will appreciate the all-rubber track with low ground pressure and the dual-level suspension for maximum ground adherence. The compact track



The Posi-Track undercarriage on the Terex ASV compact track loader offers independent torsion axles and additional roller/bogie wheels.



The Caterpillar 299C compact track loader features a fully suspended steel undercarriage and steel-embedded rubber track.

loaders, on the other hand, are designed for increased durability in demanding applications and tougher ground conditions.”

The torsion axles, which suspend the undercarriage of the compact track loader, move independently relative to the machine and each other. “Combine that with the air-ride suspension seat and you can operate the machine comfortably at higher speeds,” Verdon says. In fact, Caterpillar CTLs come standard with two-speed travel and offer a fast speed of 8.5 mph.

The elevated external positive-drive system protects drive components from ground debris. It is also equipped with duo cone seals with seal guard — adopted from larger Caterpillar track-type tractors.

Takeuchi

The undercarriage of Takeuchi compact track loaders is attached to the main frame. “Our machines are built for grading and heavy pushing,” says David Steger, national product manager. “An undercarriage that is fixed to the main frame provides a more stable platform, reducing the tendency of a suspended undercarriage to bounce. As a result, the fixed undercarriage produces a smoother finished grade.”

The Takeuchi machine is designed as a dedicated track loader and was not adapted from a skid-steer design. The integrated frame uses cross-members that run the full width of the frame. The undercarriage is welded and designed to be part of the frame.

The result is a stronger frame and better weight distribution for more durability.

The track, with steel-on-steel contact between the track, rollers and sprocket, adds durability. The lower and rear rollers ride on a forged steel contact pad built into the track. “This lets the track operate in many types of material,” Steger says. “If a rock gets between the roller and the track, it is pulverized instead of damaging layers of rubber.”

The slower rotating shafts of the machine’s large-diameter, outside-running rollers and front idlers add durability. The lower roller is placed directly below the drive sprocket. “This permits more sprocket teeth to engage the track, reducing the load on any one tooth, providing more power to be transferred to the track and lengthening track life,” Steger says.

The track power of the machines is enhanced by double-reduction final drives located in the track drive motors, rather than a direct or single-reduction drive. “The final drive acts like a transmission,” Steger says. “These two transmissions multiply the torque to move the machine.”

Terex ASV

The Posi-Track technology of Terex ASV compact track loaders combines independent torsion axles with maximum contact area between the tracks and the ground. “In addition to improving operator comfort, the suspension allows the track to maintain contact with

ground,” says Jodi Gulbraa, product marketing specialist. “This provides excellent traction with minimum vibration. This design increases undercarriage and machine life, ultimately lowering operating costs while increasing productivity.”

Ground pressures range from 2.8 psi on the smallest model to 4.37 psi on the largest. Increasing the contact area improves traction for more productivity when pushing and digging. Each torsion axle contains a torsion bar as its main weight-bearing spring. The main structure is an outside tube with a square inside bar orientated 45 degrees from each other. Rubber cords between the tube and bar allow the inner bar to rotate and give resistance.

The Terex ASV Posi-Track undercarriage has additional roller/bogie wheels. “This provides even weight distribution, which lowers impact when traveling over edges or objects,” says Gulbraa. “Less impact means longer track and undercarriage life.”

The company’s latest compact track loader model, PT80, has 32 10-inch bogie wheels and 16 15-inch idler wheels. The bogie wheels are designed to minimize wear to the inside of the track, reducing operating costs. The wheels of the Posi-Track suspension are also easy to service, if necessary, and can be detached without removing the tracks.

The internal drive system is designed for more efficient operation at higher speeds than a fixed sprocket and track system, in which the sprocket teeth drive off the steel-embedded tracks. “An internal drive lug pattern on our track, along with the movement of the outer roller, allows the roller to rotate and adjust to the bottom of the lug, always providing a solid engagement,” Gulbraa says.

Greg Northcutt is a freelance writer based in Port Orchard, Wash. He can be reached by e-mailing this publication at editor@onsiteinstaller.com. ■

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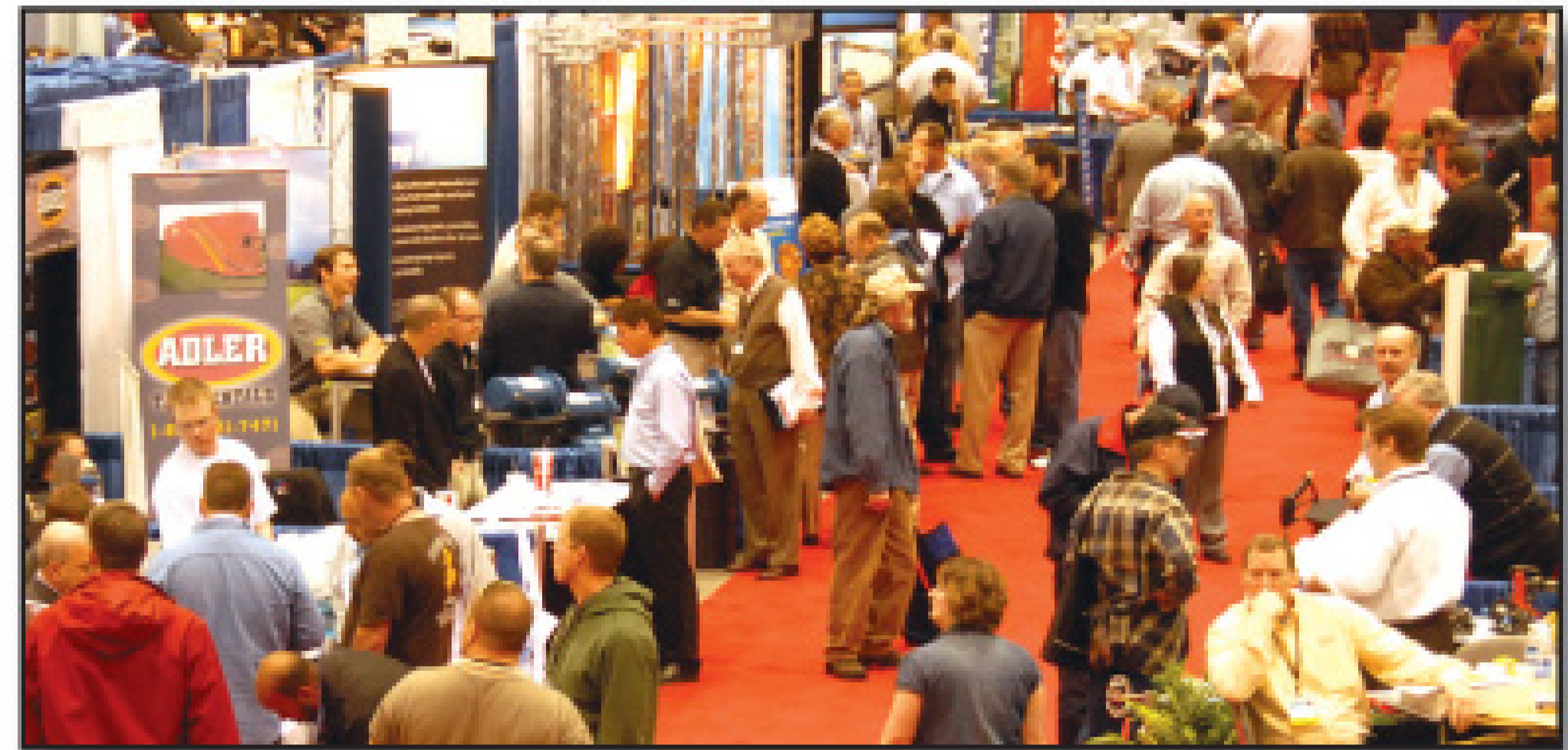
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SEE IT ALL!

Exhibitors offer a hands-on look at the latest services and technology

By Ed Wodalski



How do you improve on the environmental service industry's largest-ever environmental exposition? We believe it's by providing you with more ideas and more products than ever before. Whether you're a first-time visitor or long-time guest, the 2009 Pumper & Cleaner Environmental Expo is your opportunity to share concerns and seek solutions from experts around the world. With thousands of new products covering nearly one million square feet of exhibition space, Louisville, Ky., is your destination for the services and technologies needed to become more efficient and more profitable. To help plan your visit, here's a look at some of the products and services you don't want to miss.

Infiltrator Systems Inc.

TW Series plastic septic tanks feature triple-wall thickness for superior strength, factory-installed structural bulkheads and reinforced access parts. Available in sizes from 375 gallons to 1,500 gallons in single and dual design, the tanks are designed for both septic and pump tanks. 800/221-4436; www.infiltratorsystems.com; Expo booth 14049.



Blue Angel Pumps

The Beast 2-hp grinder pump offers flows up to 40 gpm at 20 feet and nearly 500,000 cuts per minute. Weighing 92 pounds, features include single and dual seal, dual impeller and 115-volt model. Customized, pre-assembled systems are available. 888/636-6628; www.blueangelpumps.com; Expo booth 10053.



Liberty Pumps

The 2-hp Omnivore grinder pump features V-Slice cutter technology, producing 372,000 cuts per minute. The open volute design eliminates cutwater, improving solids flow and reducing potential jamming. Other features include a one-piece, cast iron body, quick-disconnect power cord, stainless steel impeller and dual shaft seals. Complete pre-assembled systems are available. 800/543-2550; www.libertypumps.com; Expo booth 9215.



One Biotechnology

BioOne biological drain, septic and drainfield maintainer/rejuvenator utilizes natural, live vegetative microbes to break down fat, oils and grease. The stabilized liquid formula, available in residential and commercial sizes, contains no emulsifiers, added enzymes or surfactants and is recognized by the U.S. Environmental Protection Agency's Design for the Environment program. 800/951-4246; www.1biotechnology.com; Expo booth 3045.



Juggler by Labrie

The two-compartment Juggler pumping and liquid-solid separating system is designed for servicing grease traps and septic tanks without chemicals. The system automatically detects density variations in the waste and separates the contents as it is pumped. Sludge and scum are sent to the front of the tank, while the liquid remains in the rear, where it is treated and returned to the septic tank. The returning liquid is designed to be 99.98 percent free of solids that affect bacterial flora. The model J-10 Juggler system has a solids tank capacity of 3,600 gallons and water capacity of 1,200 gallons. Flow rate is 125 gpm with a filter operating pressure of 13 psi and a remote control reach of 300 feet. Tank side walls are made of 1/4-inch aluminum with the tank head made of 3/8-inch aluminum. The vacuum system features an NVE 743 pump with 527-cfm maximum air displacement, a maximum vacuum rate of 27-inch Hg and maximum pressure of 10 psi. 800/463-6638; www.labriegrup.com; Expo booth 9017.



EXPO PRODUCT PREVIEW

Champion Pump Company Inc.

The Champion 2-hp grinder pump provides flows up to 44 gpm and heads up to 104 TDH. The unit features double-seal configuration with a lower silicon carbide seal. A seal failure option is available. The 230-volt, ball-bearing, oil-filled motor is designed not to overload. Starting components are in the pump, eliminating the need for control panels. 800/659-4491; www.championpump.com; Expo booth 3007.



Consolidated Treatment Systems Inc.

The compact, environmentally friendly Multi-Flo wastewater treatment system treats waste through 132 square feet of fixed film internal media and a submersible aerator. The no-bypass positive filtration system is designed to produce clear, odorless effluent that is more than 95 percent contaminant-free, and can be retrofitted to replace failing conventional systems. 937/746-2727; www.consolidatedtreatment.com; Expo booth 9306.



Simple Solutions LLC

The Wolverine PCB 100-A vapor phase adsorber system is designed to provide odor control for air flows up to 100 cfm. Built of corrosion-resistant materials, applications include odor control of water process tank vents, lift stations and trailer park septic systems. The unit draws odorous air from the source area, treats it to remove offending odors (hydrogen sulfide, mercaptans, ammonia) and releases scrubbed, odor-free air to the atmosphere. It can be used with convection air flow or forced-draft ventilation. 866/667-8465; www.industrialodorcontrol.com; Expo booth 49.



Quality Services Contractors

Business Management Coach provides an outside view of your company by an industry professional and recommendations for improvement. Services include business tune-up, management structure and implementation support. 800/533-7694; www.qsc-phcc.org; Expo booth 9324.



Mody Pumps Inc.

The 6-inch MH 480 submersible manhole pump delivers an estimated maximum flow of 1,100 gpm with a discharge head of 60 feet. Able to handle up to 3-inch solids, the unit is a modified 10-hp MS 482 pump made to fit inside a 21-inch drainpipe manhole. It was primarily designed for use in emergency operations due to clogged sewage drainpipes and as a sewer bypass pump when supporting on-site construction or improvements. 661/392-7600; www.modyumpump.com; Expo booth 7166.



Containment Solutions Inc.

Flowtite water tanks are designed for potable and non-potable water applications, including green building initiatives. The lightweight, underground fiberglass tanks are non-corrosive and range in size from 500 to 50,000 gallons. Tanks can be used for septic, rainwater harvesting, landscape irrigation, graywater reuse, and stormwater collection and treatment. 877/274-8265; www.containmentsolutions.com; Expo booth 3143.



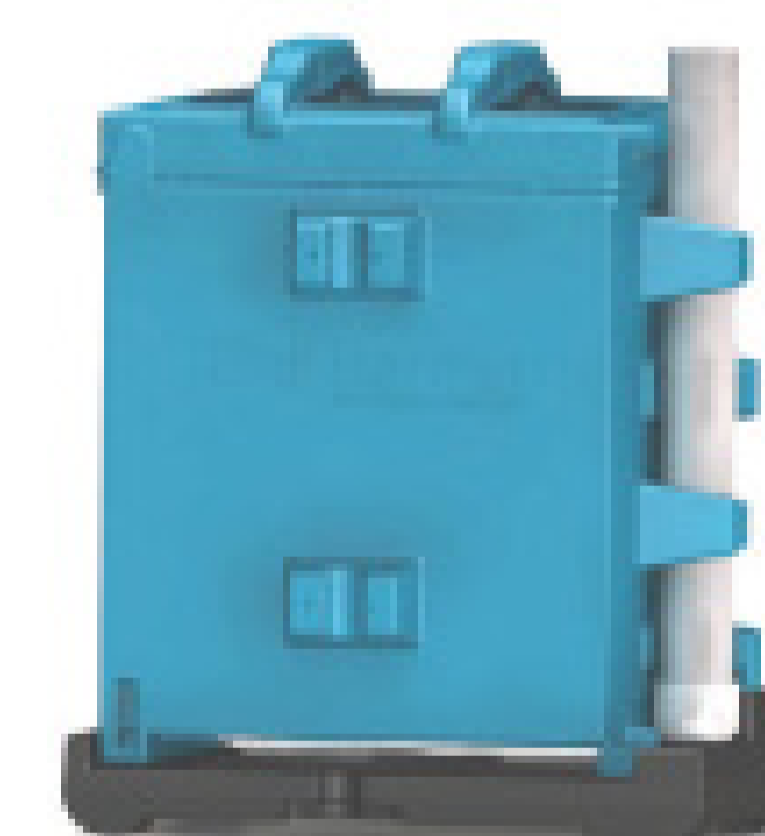
Dekorra Products

Model 111 and 112 rock enclosure septic lid covers are designed to fit up to 30-inch diameter lids, and risers up to six (model 112) or 12 inches (model 111). Both are available in RealRock material and include plastic stakes to secure the rocks. Each model weighs 10 pounds and includes a built-out area to assist with covering junction boxes attached to the side of risers or lids. 888/635-8585; www.dekorraproducts.com; Expo booth 9214.



Bio-Microbics Inc.

The BioBarrier membrane bioreactor wastewater treatment system is designed to meet the stringent needs of environmentally sensitive areas, enabling high-quality effluent to discharge into most environments, including surface irrigation. The energy-efficient, biological process features low sludge production and a smaller footprint. Its automated operation sequence requires no complicated backwash. The pre-engineered, modular unit ships ready to install. 800/753-3278; www.biomicrobics.com; Expo booth 7130.



Pro-Sept Protection Plan

The Pro-Sept warranty program for residential septic systems provides an allowance of up to \$25,000 for the repair or replacement of a system in the event of a malfunction. The plan covers existing systems for three years and new installations for five years. 888/354-0677; www.powderhornagency.com; Expo booth 10051.



OMI Industries

Ecosorb odor neutralizer is made to break down and remove a full spectrum of both organic and inorganic odors. The neutralizer can be applied via atomization, nebulization or by infusion into end products. 800/662-6367; www.omi-industries.com; Expo booth 18038.



Roth Global Plastics

The Roth MultiTank is designed for use as an NSF 61 cistern, septic, holding, pump or rainwater collection tank. Manufactured with multi-layer blow molding technology, it features multiple warranty coverage against materials, workmanship, corrosion and replacement labor. 866/943-7256; www.roth-global.net; Expo booth 14003.



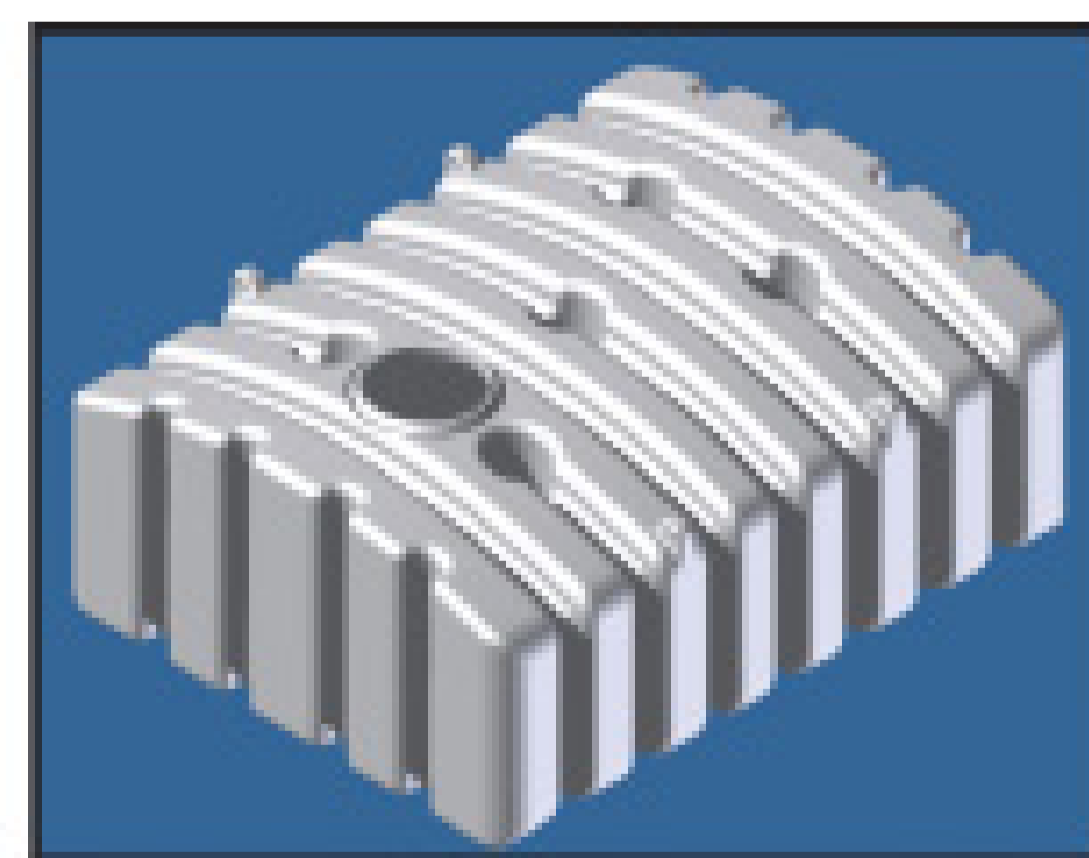
Bord na Mona

The Puroflo biofiltration system uses biofibrous peat to treat septic tank waste. The peat fiber media filters wastewater and promotes the growth of microorganisms that naturally treat septic tank effluent. It also provides advanced secondary treatment for domestic strength wastewater for proper groundwater and public health protection. An onsite treatment option where conventional septic systems are restricted due to high water tables, restrictive layers, poor soil conditions or other site concerns, Puroflo also can be used to repair or replace failing conventional systems, or for use in decentralized or cluster-type community systems. 336/547-9338; www.bnm-us.com; Expo booth 4124.



Norwesco Inc.

The 2,000-gallon holding tank can be used as a one compartment septic tank, holding tank, pump chamber or cistern for potable water. Native soils can be used for backfill, and no water is necessary during installation. The end ribs will accept up to 4-inch fittings. 800/328-3420; www.norwesco.com; Expo booth 12035.



Septronics Inc.

Available for 120-volt and 240-volt systems, the Pedestal Mini-Jiffy mounted junction box with event counter and interior dual alarm comes assembled with one alarm switch, dual alarm, auto reset, horn silence, upper and lower cord seals and choice of pipe nipple with locknuts to connect to the riser. The event counter, pump receptacle and color-coded terminal strip are located on a slide-out aluminum terminal board for easy hookup. 888/565-9030; www.septronicsinc.com; Expo booth 59.



Roebic Laboratories Inc.

Granular septic treatment is a highly concentrated blend of eight strains of specialized bacteria. Powered by six strains of RoeTech Bacillus bacteria combined with two strains of Pseudomonas, this multiple enzyme-producing bacterial culture is designed to degrade standard sewage components as well as surfactants, tissue/paper, hydrocarbons and household cleaning chemicals, and works in a wide pH range (6-10). 203/795-1283; www.roebic.com; Expo booth 9233.



AlturnaMats Inc.

Ground protection mats, available in 3-foot by 8-foot and 4-foot by 8-foot sizes, are designed to provide a workable surface no matter what the condition of the ground beneath. The mats can be used on manicured lawns to save on restoration or in wet, muddy conditions to provide traction. 814/827-8884; www.alturnamats.com; Expo booth 7102.



IHI Compact Excavator Sales LLC

The 55VX 5-metric ton mini excavator is an 11,700-pound, zero-tail-swing unit with a digging depth of 12 feet, 5 inches and a digging force of 10,850 pounds. Standard equipment includes a Yanmar 37.1-hp engine, four-post canopy, rubber tracks, auxiliary hydraulic piping, pattern change valve, suspension seat, arm rest and backfill blade. 800/538-1447; www.ihices.com; Expo booth 8209.



www.pumpershow.com

EXPO PRODUCT PREVIEW

Premier Tech Environnement

The Ecoflo compact filter for wastewater treatment is a passive system requiring no electro-mechanical parts. The filter is recyclable, entirely self-contained, adaptable to any type of lot and made of 100 percent natural fiber. 800/632-6356; www.ptenv.com; Expo booth 4164.



plate traction pattern on the external corrugation provides a non-slip surface. Weighing 15 pounds, the sections can be installed by one person. The corrugated design also increases load-bearing strength in the trench, meeting H-10 (16,000 pounds per axle) specifications. 800/821-6710; www.ads-pipe.com; Expo booth 4053.

BrenLin Company Inc.

Company name, phone number, company logo and Web address can be engraved into septic tank riser lids by the manufacturer of Seal-R Products. 320/677-3001; www.seal-r.com; Expo booth 6167.



Cape Cod Biochemical Co.

AfterShock bioremediation is designed to restore drainage with a blend of oxidizer and bacteria that can be applied in a single day treatment. 800/343-8007; www.septiconline.com; Expo booth 3201.



Pentair Water

The high-capacity, residential sewage package system features everything needed for fast installation and service, including shallow basin, removable switch for easy service, and concrete splash lip and unique basin shape that prevent the system from floating. 262/728-5551; www.pentairwater.com; Expo booth 7028.



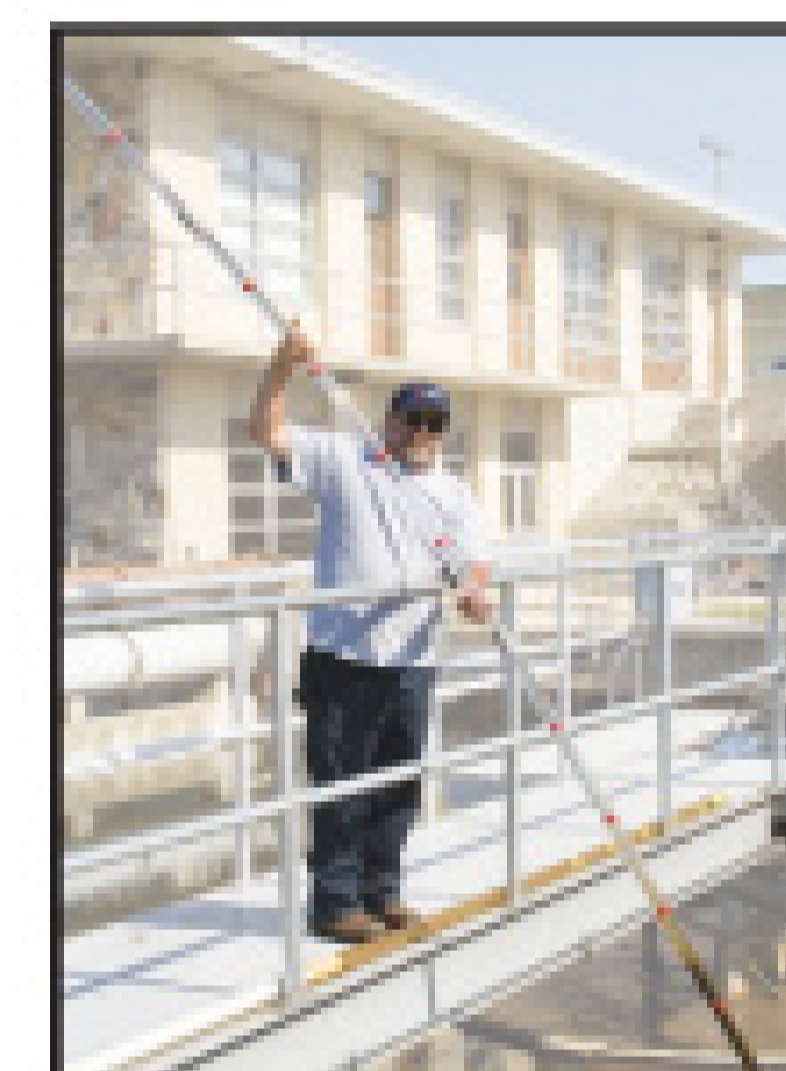
Ecological Laboratories Inc.

Pro-Pump/Septic Saver is made to protect against septic system failure and ensure continued problem-free service. The monthly, 12-treatment combination package features Pro-Pump and Pro-Pump/SP. The kit is designed to ensure a high rate of biological activity and oxidation of waste matter within the system as well as the rapid breakdown and removal of waste matter that can build up in the absorption area of drainfields. Kits also include leak test tablets and instructions. 800/326-7867; www.propump.com; Expo booth 4094.



USA BlueBook

CorePRO samplers are made of 1 1/2-inch diameter Lexan for strength and durability. They feature three, 5-foot-long sections that screw together for easy transport. Additional sections can be added for a maximum length of 25 feet. The bottom section has a built-in foot valve to hold the sample for blanket observation. Tubes have tape markings every foot with optional self-stick waterproof numbers. 800/548-1234; www.usabluebook.com; Expo booth 13051.



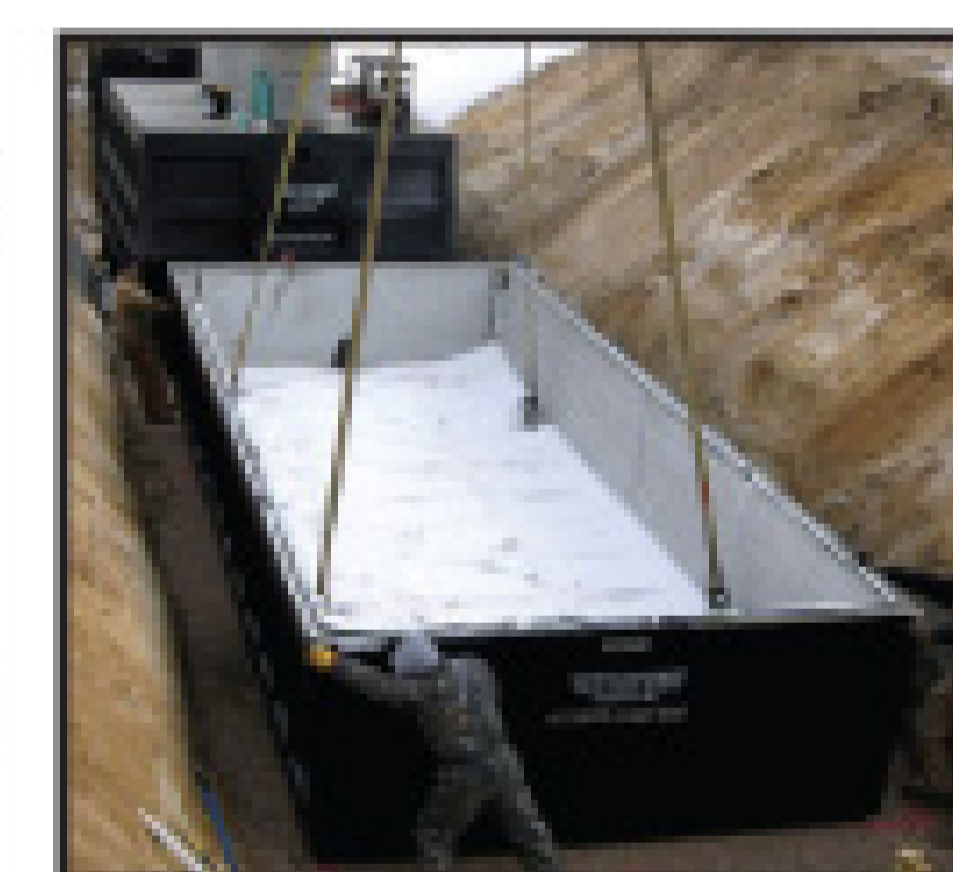
Sim/Tech Filter Inc.

The TruCore large sludge sampler enables samples to be taken without excessive turbulence that can be caused by valves and stoppers. With an inside diameter of 1.65 inches, the sampler has a 14 ounce-per-foot capacity. The unit consists of a polycarbonate holding tube surrounded by a PVC jacket. It has an outside diameter of 2 inches, is 8 feet long with optional extensions and is marked every 6 inches and numbered every foot. Case is included. 888/999-3290; www.gag-simtech.com; Expo booth 4176.



Wieser Concrete Products Inc.

Precast concrete tanks for onsite wastewater systems are available in sizes up to 40,000 gallons. Tanks are designed for septic, grease interceptors, aeration, fire protection and holding tank applications. Custom sizes are available. 800/325-8456; www.wieserconcrete.com; Expo booth 39.



Advanced Drainage Systems

Arc 18 drainfield chambers are designed to maximize infiltrative surface area and storage capacity. The chambers include an integral 20-degree articulation connection. Made from HDPE, the units are 5 feet long with a secure joint connection that enables sections to be quickly installed in straight or contoured applications. A diamond-



Salcor Inc.

The model 3G ultraviolet onsite disinfection system treats up to six gallons per minute. Installed in the ground or in an effluent tank, it features two-year UV lamp life, 30-watt power, minimal annual maintenance, and alarm circuitry. 760/731-0745; Expo booth 13039.

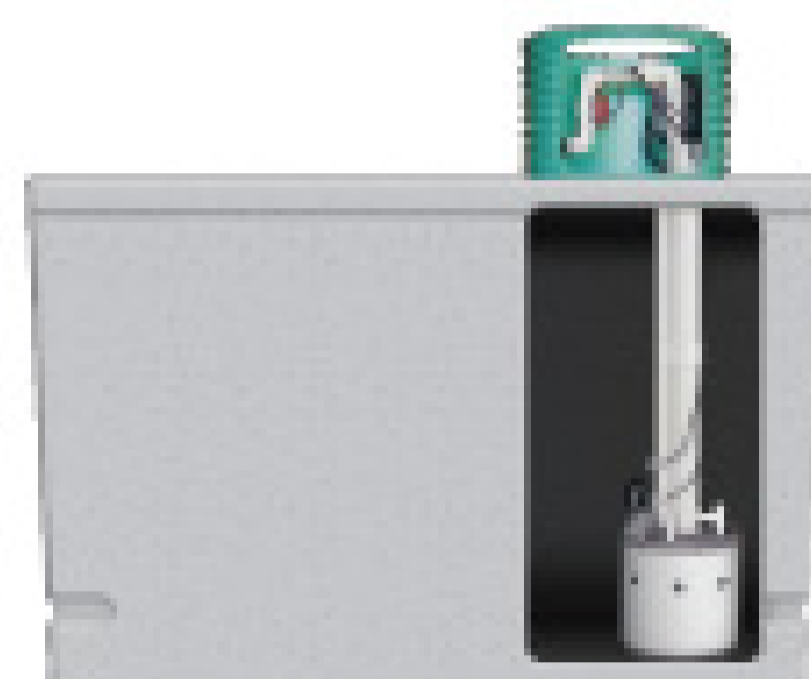


Fergus Power Pump Inc.

The Banding Kit is designed to fasten a Duel Power Lid to a septic system's concrete or plastic riser, providing extra security for the homeowner. The kit features stainless steel parts and helps provide a tight fit, keeping the system free from groundwater infiltration and gases. 218/736-6772; www.ferguspowerpump.com; Expo booth 3217.

Orenco Systems Inc.

Designed for retrofits, the EasyPak pump package includes a pump vault with Biotube filter, turbine pump, control panel, splice box, floats and discharge assembly in one box. Adjustable collars secure floats to a snap-in stem. The system is available for timed or on-demand dosing. 800/348-9843; www.orenco.com; Expo booth 6115.



Goulds Pumps/ITT Industries

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Weber Industries Inc.

Webtrol grinder pumps have a hardened 440 stainless steel shredding ring and grinding cutter for 18,300 cuts per second. The impeller is recessed to prevent clogging. Internal capacitors require no control box to run. 800/769-7867; www.webtrol.com; Expo booth 4081.



Septic Services Inc.

The fully-enclosed Flagg-Air 340 aeration unit features continuous-duty double insulation and a sealed-bearing 1/4-hp, 3,450-rpm motor with protective cap. The high-impact, tapered aspirator and suds restrictor are mounted on a 5/8-inch, stainless steel shaft with corrosion-resistant counter shaft. Galvanized steel brackets with rubber vibration restrictors help reduce noise. 800/536-5564; www.septicsserv.com; Expo booth 6095.



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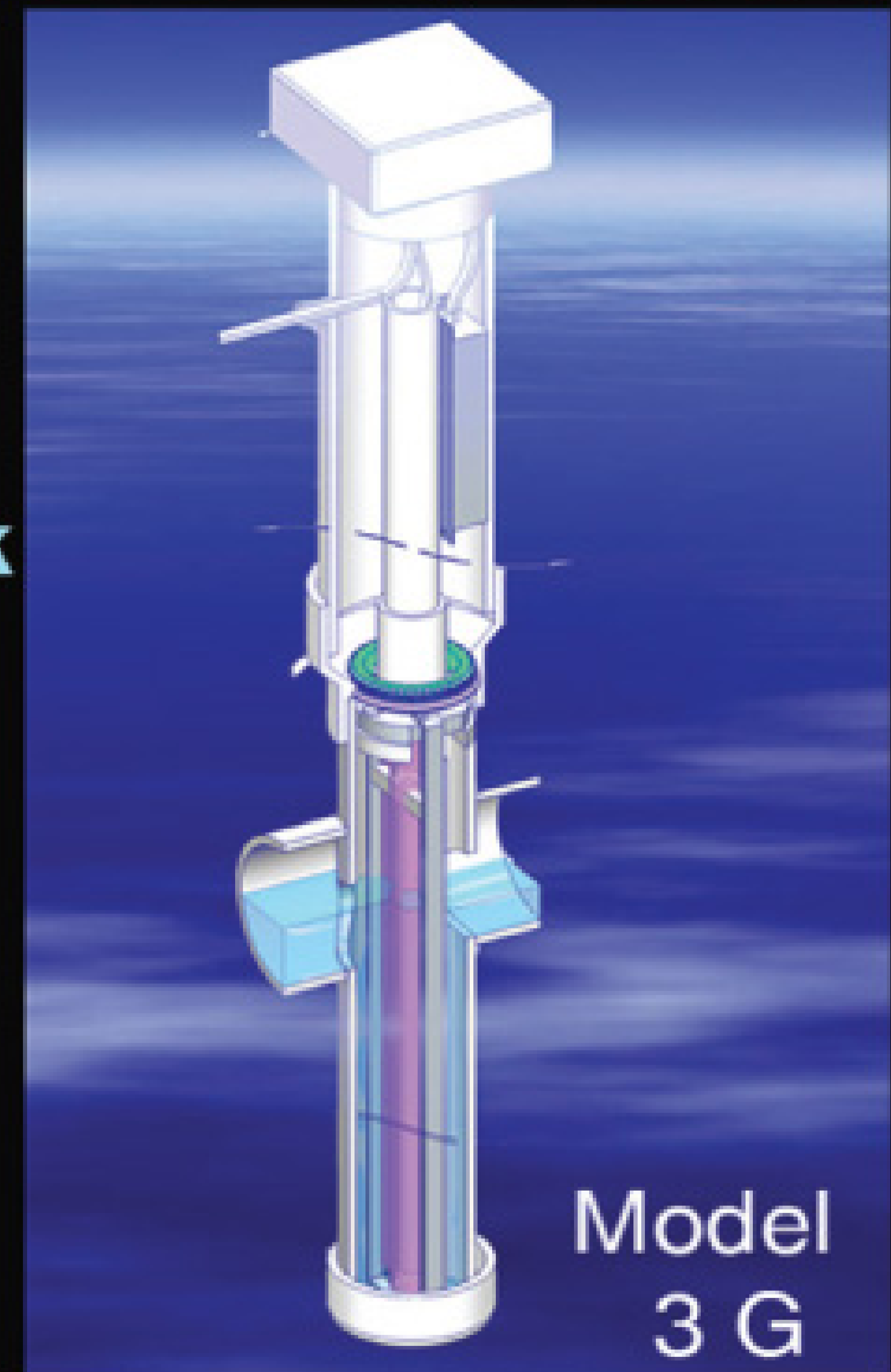
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Cuyahoga County Board of Health inspectors observe the installation of a system that includes a combination tank with a 500-gallon trash trap and a 750-gallon flow equalization tank. The system also includes a treatment unit from Consolidated Treatment Systems, sample wells, and UV light disinfection. (Photography by Larry Bennet)

They Were Pioneers

Cuyahoga County, Ohio, takes a comprehensive approach to regulation to ensure that onsite treatment systems function properly and protect water resources

By Gil Longwell

Cuyahoga County Board of Health, Parma, Ohio

SERVICE AREA: 1,260 square miles

FUNCTION: Regulation of onsite systems and other environmental programs

EMPLOYEES: 17

ANNUAL BUDGET: \$750,000 (onsite component)

WEB SITE: www.ccbh.net



More than 20 years ago, the Cuyahoga County Board of Health started an onsite system inspection program. In this county surrounding Cleveland in north central Ohio, the Board of Health saw an opportunity and acted.

"We were the first county in Ohio to conduct comprehensive onsite system inspections," says Harry Stark, R.S., M.P.A., deputy director of environmental health services. "The county's first entry into onsite management was through onsite system inspections at the time of real estate transfers." About that time, the county also began requiring a treatment tank pump-out every three years.

Today, the county has moved beyond those measures with a comprehensive onsite program that includes a complete onsite system database, homeowner outreach and education, and competency testing

for system installers. NPDES Phase II stormwater rules also interact with the onsite program.

These and other program components help ensure that water resources around the county are protected.

River on fire

Fifty-nine municipalities in the county voluntarily delegate health and environmental protection responsibilities to the Board of Health.

"Years ago, interest in onsite systems flowed from the Cuyahoga River Remediation Study," Stark recalls. In 1969, the Cuyahoga caught fire when chemicals dumped into it ignited. By the early 1980s, with those pollutants in decline, septic system discharges surfaced as the top concern for river water quality.

At that time, well over 20,000 onsite systems were in service in the county. A few hundred changed

"The health department recognized land sale transactions as an appropriate entry point for the introduction of system inspections."

Harry Stark

ownership every year. "The health department recognized land sale transactions as an appropriate entry point for the introduction of system inspections," Stark says. The inspections identified failing systems, and that triggered a requirement to replace them.

The inspections also found that most systems had a stream overflow pipe or other recognizable stream impact. "Home buyers and real estate agents eventually came to value these inspections," says Stark, who supervises the Watershed

Protection Unit, responsible for nearly all onsite systems in the county's 1,260 square miles.

Homeowner acceptance has always been a major hurdle for onsite management programs, and this pioneering program was no exception.

Program expansion

The Watershed Protection Unit addresses new system construction as well as repairs and replacements. A well maintained database with information on almost 19,000 systems showed that by 1992 only a fraction of the total were ever inspected. "That year, we abandoned the time-of-sale inspection program and replaced it with a comprehensive management program," Stark says. "The database was and will always be an invaluable resource."

It contains a wealth of information about each system's location and components. In some cases it includes a site sketch. It has been upgraded to accept GPS data, cumulative pump-out history, and water-quality test results. "As water-quality samples were collected and the results plotted, the initial management inspections were focused in areas of greatest need," Stark says.

The database, however, is not the only key to success. "Homeowners had the most to gain from this program so we distributed newsletters that taught about onsite systems," Stark says. "We held town meetings. We reached out with homeowner education efforts and more."

These efforts all paid off as homeowners began to appreciate the value management added to their properties. Buyers can access a system's complete history, and sellers need no longer worry what a home inspector will find. Onsite system impacts on streams and rivers decreased as well.

Fewer onsite systems

One impact of the onsite program is improved coordination of plans to address failing systems and the expansion of the "big pipe" solution. Previously, the discovery of a failing system triggered an extension of the closest sewer line.

Stark estimates that in the last



Ray Smalley of North Coast Aeration Systems installs a UV disinfection unit.

25 years, as many as 9,000 properties formerly served by onsite systems are now served by the Northeastern Ohio Sewer District, which covers parts of several counties and 61 municipalities. The district operates three treatment plants, which also receive septage from all Cuyahoga County onsite systems.

The Watershed Protection Unit has seen a steady decrease in new system installations. In 2007, of some 250 permits issued, only 10 were for new construction — the rest were repairs or replacements. Only about 50 system permits were issued in the first nine months of 2008. "This is due to confusion surrounding efforts to set new statewide onsite regulation changes," Stark believes.

Ohio state government enacted

new onsite regulations on Jan. 1, 2007, but six months later the state legislature rescinded them and allowed counties to set their own rules. During this time of regulatory uncertainty, Cuyahoga County suspended its inspection program. "We were uncertain which failing-system remedies we could offer," Stark says. "We did not want to force stop-gap or short-term solutions on our landowners, so the program was put on hold until the situation solidified."

With the introduction of advanced onsite technologies and a greater appreciation of the role of soil in treatment, onsite solutions may be gaining renewed interest. The county has also identified ways to include a fail-safe factor in technologies that incorporate both aeration pumps and dosing pumps.

Below, Harry Stark, R.S., M.P.A., is deputy director of environmental health services for the Cuyahoga County Board of Health.



A Primary Concern

At one time, onsite systems were not perceived as having a major effect on water quality. Still, the U.S. EPA has been encouraging states to address onsite system management for some time.

That encouragement is seen in the Clean Water Starts at Home program, the National Onsite Demonstration Program, and in the use of federal revolving loan funds for onsite system repairs.

The NPDES Phase II Stormwater Rule also involves onsite systems. Its mandate for an illicit discharge detection and elimination program creates a second front in the effort to ensure all onsite systems are working properly.

The Cuyahoga County Board of Health has followed an inclusive, coordinated approach that involves all interested parties. "Even with all of the advanced communication, inclusion and outreach, there was still homeowner resistance," says Harry Stark, deputy director of environmental health services. "But resistance has slowly been replaced by understanding, acceptance and ownership."

"We require and inspect for the presence of circuitry that de-energizes the dose or lift pump if the process pump fails or is de-energized," Stark says. "No longer can a homeowner disable the treatment device and experience no negative impact of his actions."

Coordinated solutions

Stark says the Watershed Protection Unit's staff of 17 professional and support personnel have always avoided quick-fix, short-term solutions. "We did not compel the installation of an onsite replacement system when we knew it would be replaced by a sewer extension in three years," he says. The unit and the sewer district worked together to coordinate sewage facilities planning with the onsite system inspection programs.

Since 2003, Cuyahoga County's stormwater has been regulated under the NPDES Phase II Stormwater Rule, which relates to municipal separate storm sewer systems (MS4s). As part of Phase II, Stark's unit has been operating an illicit discharge detection and elimination program (IDDE).

In the field, the inventory of MS4 outfalls involves walking all surface waterways, taking digital photographs, and recording other data, such as the outfall's watershed, municipality and stream name, GPS coordinates, size and shape, material, condition, type of pipe, and whether it is a recognized or previously unknown outfall. The data is entered into a Board of Health database.

When an outfall is found to be flowing more than 72 hours after a rainfall, water samples are taken and the water quality is analyzed. If fecal coliform or other constituents of human sewage are found, the outfall's drainage area is scrutinized for possible sources. As the number of onsite systems declines, the source is usually identified as a cracked, leaking or otherwise failing sewer main or lateral.

"This coordinated effort has been credited with identifying previously undetected failing onsite systems," Stark says. "We are able to compare the onsite system database and the IDDE database."

The 2008 budget for the onsite



Laura Travers operates a QuickView zoom camera from Envirosight LLC with assistance from Nate McConoughey. The camera allows inspection of storm and sanitary sewers without confined-space entry.

component for the Watershed Protection Unit is \$750,000. It covers staff time for the sewage program, water-quality sampling and analysis, educational outreach and materials, travel and supplies. A large portion of the funds comes from user and permit fees and federal and state sources.

Multiple partners

"There will always be onsite systems in Cuyahoga County," Stark says. "The health department is committed to the proper siting, design and operation of onsite sys-

tems, but we cannot successfully do it alone."

Each activity is a component of onsite management. Most of the activities are handled by groups of task-focused experts outside the department. The department, meanwhile, concentrates on communication with each group of experts.

"There are about 40 state-licensed installers in the county, each of whom must pass a competency test," Stark says. He appreciates the Ohio Onsite Wastewater Association for its active role in installer training.

About 40 pumpers work in the county, and they are also regulated, although they are not required to pass a competency or proficiency exam. "To help all of these entrepreneurs understand the process and increase consistency, we annually meet with both [installers and pumpers]," Stark says. Through their regular contact with homeowners, these industry professionals are the first-line information source for the public.

"We did not compel the installation of an onsite replacement system when we knew it would be replaced by a sewer extension in three years."

Harry Stark

The 59 municipalities the Board serves are also partners, and they have unique informational and educational needs. The dozens of elected and appointed officials are contacted by homeowners daily, and they need the same big-picture understanding of what the Board of Health, the Watershed Protection Unit, and the sewer district do.

Everyone benefits when each partner is on the same page and delivers the same basic message. To assure harmony and diminish discord, Stark's unit invests in communication and coordination. Management extends well beyond a landowner's backyard fence. Stark's responsibility is to look over the fences and across municipal lines and watershed boundaries.

"Cuyahoga County's health department has a history of pioneering," says Stark. "It is a tradition that we respect and will continue." ■

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Why Do Tanks Erode?

Installation professionals share information on the reasons behind deterioration of concrete septic tanks and components

Question:

Does anyone have any suggestions on why concrete risers, distribution boxes and lids deteriorate? I'm guessing it's due to detergents and similar products, but what are the ones homeowners should avoid? It's stuff like this that makes me love plastic distribution boxes, risers and other components. Granted,

homeowners should use environmentally friendly products, but in reality the group that does so is a pretty small segment. I'd like to come up with a list of "bad" products and "good" products.

Answers:

I think hydrogen sulfide gas combines with the moist atmos-

phere in the top of the tank and creates an acid that deteriorates the concrete. The baffle below the water line always seems to be in better shape than what is above the water line. We have seen some baffles crumble in as few as six years. I wonder if it's a weak mix of concrete, or household products. Or does it have something to do with how well the system is vented?

➔ I've found that most deterioration issues are associated with heavy garbage disposal usage, and when combined with bad ventilation you have a disaster waiting to happen. The rotting food creates hydrogen sulfide.

I've seen one-year-old septic tanks that are vented well (the neighbors can smell it) but are still deteriorating. We pump the tank and educate the homeowner about garbage disposals and a few other things, and the foul smell and deterioration stop.

I've also seen septic tanks five years and older that weren't vented well, and the 6-inch-thick concrete lid fell apart after a couple of sledgehammer raps. The underside of the lid and the concrete above the water line is a chalky green/white/yellowish crumbly mess. It's typical to be able to rub away an inch of concrete with the swipe of a glove.

However, I have yet to see a precast tank manufactured by one of our local precast companies cave in. I have seen a few plastic tanks buckled (not from H₂S).

➔ Hydrogen sulfide gas is responsible for the concrete deteri-

oration. That is why the concrete below the water line is still OK. It is perfectly normal for standard concrete to break down like this. A lot depends on the quality of the concrete. All septic tanks and related components should be manufactured in sulfate-resistant cement to counteract this deterioration, but this is not always done, as this cement is much more expensive than normal cement. Even the cement quantity in the concrete could affect its useful life.

Use of a garbage disposal or any other means of getting excess food to the septic tank will raise the hydrogen sulfide levels. It also lowers the pH in the tank when the H₂S and water mix.

➔ I'm not sure about water softeners, either, as far as concrete deterioration goes, but there is strong evidence that water softeners raise the salinity of the effluent, causing the sludge in the tank to sit lighter and fluffier. This brings the sludge up into the agitation area of the tank sooner (maybe a year or two).

If I lived in a house with a septic system and a water softener, I would pump the tank more often to keep the sludge closer to the bottom.

➔ I've found that in our business, an inexpensive vent installed in any tank will help abate the gas. It should be a vent with some sort of replaceable activated charcoal filter to control odors. ■

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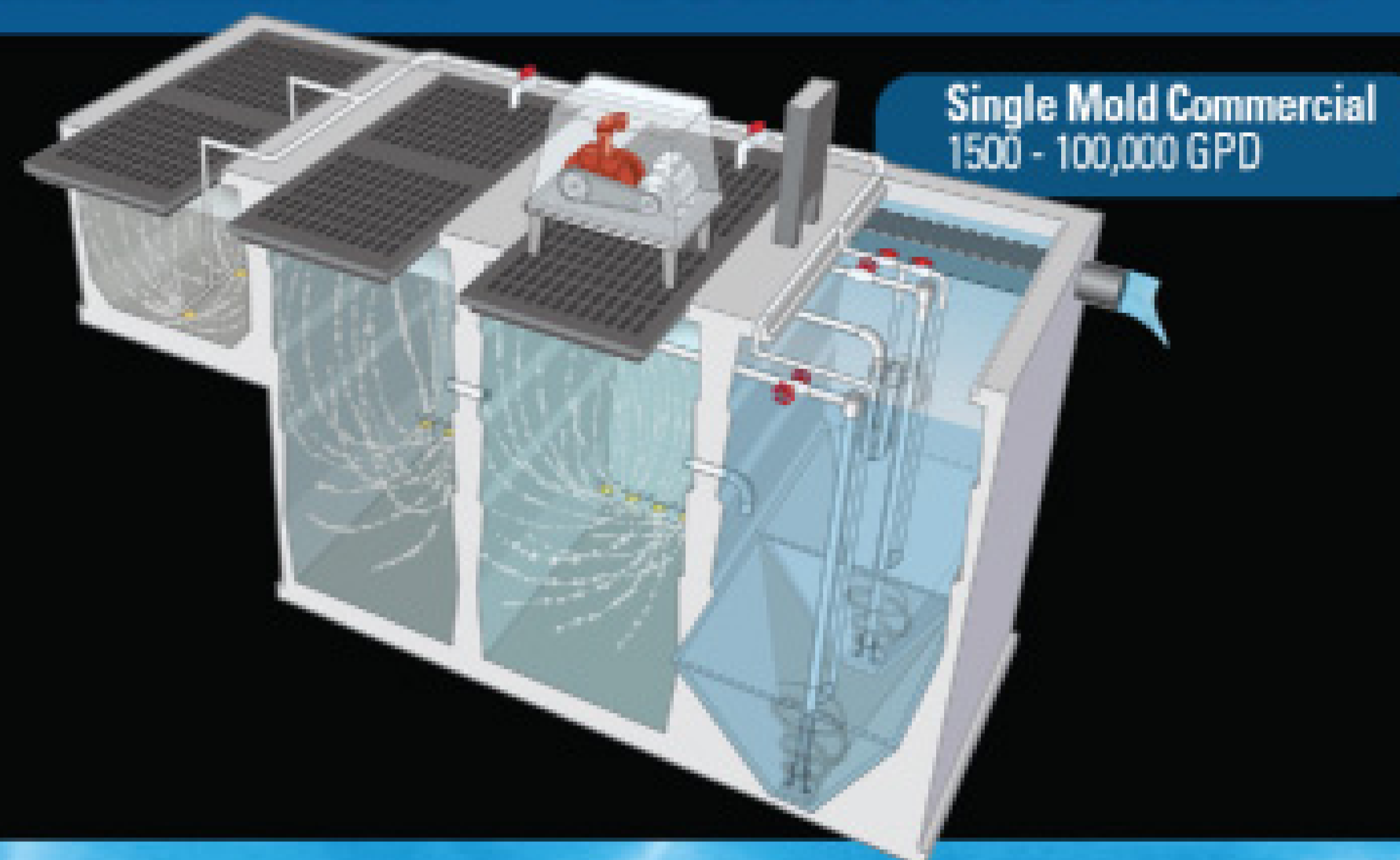
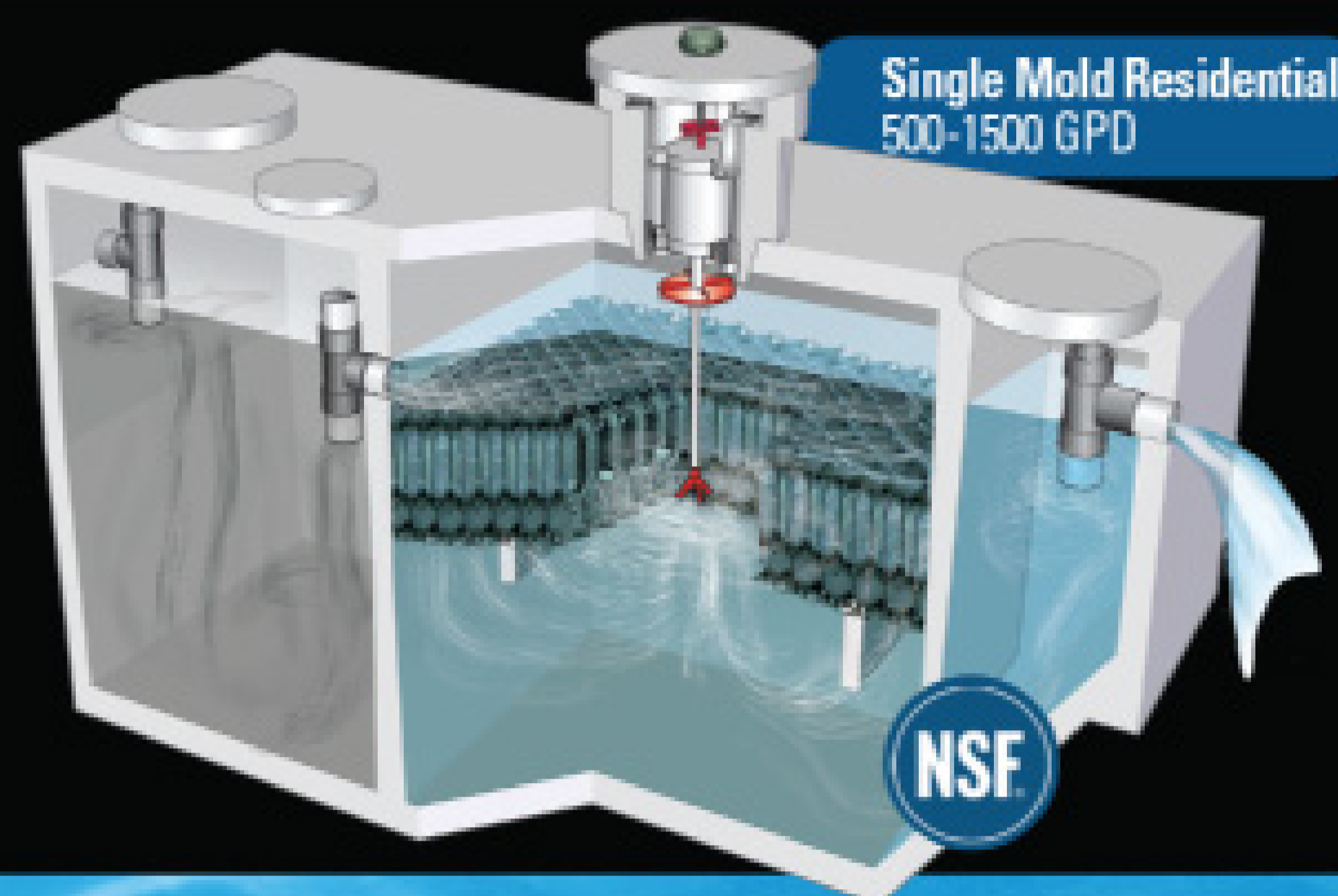


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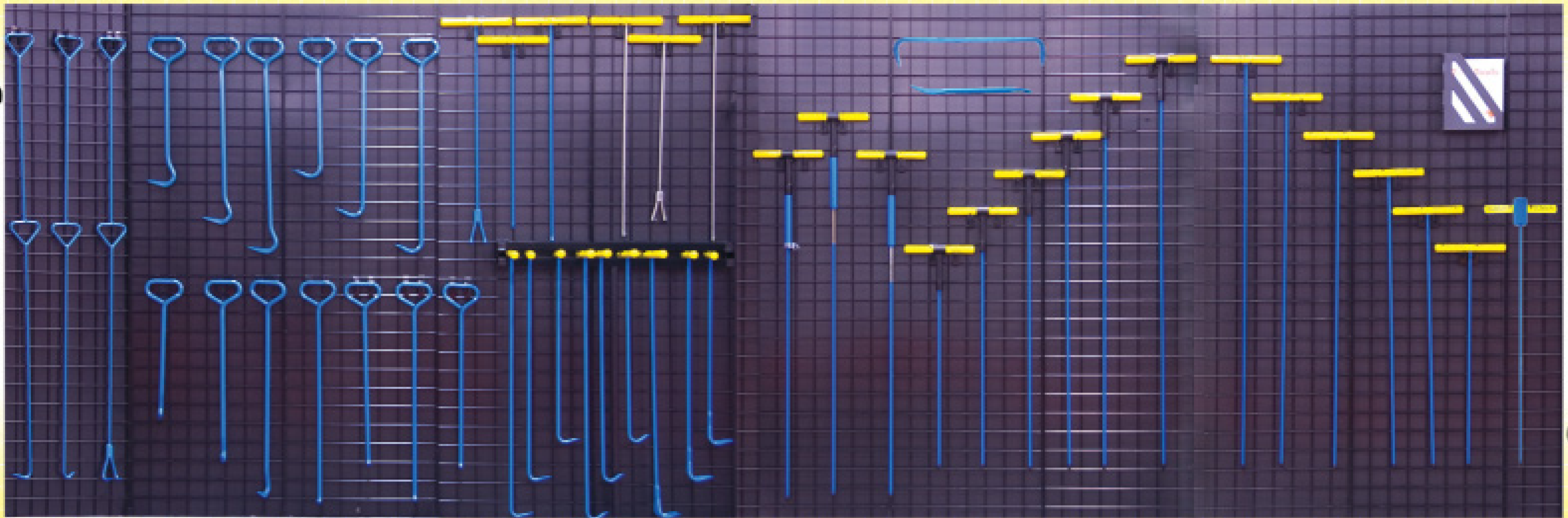
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- 11:00 - 12:00 The Value of Internet Marketing
- 12:00 - 1:00 **Lunch Break**
- 1:00 - 2:00 Selling Value
- 2:30 - 3:30 How to Add Value to Every Customer You Have and Future Customers
- 4:00 - 5:00 How to Determine Your Operating Costs

ROOM C203

WJTA / PSAI / CBSA

- 8:00 - 9:00 What an Air Mover Can Do For You
- 9:30 - 10:30 The Basics of High Pressure Waterblasting
- 11:00 - 12:00 Waterjetting Applications
- 12:00 - 1:00 **Lunch Break**
- 1:00 - 3:30 Understanding Your Cost to Insure Profitability (PSAI)
- 4:00 - 5:00 Cross Bores of Gas Lines in Sewers (CBSA)

ROOM C204 & C205

SSCSC Southern Section Collection Systems Committee

- 8:00 - 9:00 Trenchless Pipe Rehabilitation
- 9:30 - 10:30 CCTV Pipeline Inspections
- 11:00 - 12:00 The Nuts and Bolts of GIS
- 12:00 - 1:00 **Lunch Break**
- 1:00 - 2:00 The Nitty-Gritty on Pipeline Cleaning
- 2:30 - 3:30 Confined Space and Protective Equipment Safety Requirements
- 4:00 - 5:00 Manhole Inspections

ROOM B101 & B102

NAWT National Association of Wastewater Transporters

- 8:00 - 9:00 What are My Disposal Resources
- 9:30 - 10:30 Treatment Processes, What is Out There?
- 11:00 - 12:00 Evaluating Costs as Part of the Decision Making Process
- 12:00 - 1:00 **Lunch Break**
- 1:00 - 2:00 Meeting Part 503 Requirements
- 2:30 - 3:30 Turn Grease Trap Waste Into Gold
- 4:00 - 5:00 Developing a Business Plan

ROOM B103 & B104

NOWRA National Onsite Wastewater Recycling Association

- 8:00 - 9:00 NOWRA Overview & Industry Trends
- 9:30 - 10:30 Soil & Site Evaluation Overview
- 11:00 - 12:00 Septic Tanks: Function, Inspection, Installation & Trouble Shooting
- 12:00 - 1:00 **Lunch Break**
- 1:00 - 2:00 Aerobic Treatment Units & Filters
- 2:30 - 3:30 Pumps & Controls
- 4:00 - 5:00 Operation & Maintenance of Systems

ROOM C101 - C104

NASSCO National Association of Sewer Service Companies

- 8:00 - 9:00 Robotics For the Future, What Does it Mean for You?
- 9:30 - 10:30 Small Diameter Epoxy Coatings
- 11:00 - 12:00 Root Control, How Does it Work and Why is it Needed?
- 12:00 - 1:00 **Lunch Break**
- 1:00 - 2:00 OSHA Regulations
- 2:30 - 3:30 Choosing the Correct Chemical Grouts
- 4:00 - 5:00 Trained Technology Inspectors

ROOM C105 - C108

NEHA National Environmental Health Association

- 8:00 - 9:00 How to Work With Regulators and Regulations
- 9:30 - 10:30 Pumps: Operation & Maintenance
- 11:00 - 12:00 Routine Maintenance Inspections
- 12:00 - 1:00 **Lunch Break**
- 1:00 - 2:00 Using the Certified Installer Credential to Help Your Business
- 2:30 - 3:30 T.B.D.
- 4:00 - 5:00 T.B.D.

ROOM C109 - C112

SCOTT HUNTER Business Track

- 8:00 - 9:00 The Art of Personal Sales
- 11:00 - 12:00 The Art of Personal Sales (Part 2)
- 12:00 - 1:00 **Lunch Break**
- 1:00 - 2:00 Yes, We Have to Work Together, but Does it Have to be So Painful?
- 4:00 - 5:00 The Art of Being Outrageously Successful!

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THURSDAY

February 26th, 2009

ROOM C101-C104

Portable Toilet Track

- 8:00 - 9:00 Portable Sanitation Start Up
Hampel
- 9:30 - 10:30 Selling Portable Restrooms Services
Satellite Industries
- 11:00 - 12:00 T.B.D.

ROOM C105 - C108

Liquid Waste Track

- 8:00 - 9:00 Decentralized Wastewater Sustainability - **Aquatest**
- 9:30 - 10:30 Discover the "GREEN ERA" and capitalize on it! - **Lenzyme**
- 11:00 - 12:00 Modular Waste Water Treatment
Big Fish Environmental, LLC

ROOM B103 & B104

Municipal Track

- 8:00 - 9:00 Why Measure Sewer Flows from Private Services? - **City Meter**
- 9:30 - 10:30 Polymer Solutions for Wastewater Treatment - **Fort Bend Services**
- 11:00 - 12:00 Rotary Jets for Material Removal
StoneAge

ROOM C109 - C112

Sewer & Drain Track

- 8:00 - 9:00 Bacteria Mythbusters -
ProClean by Duracable
- 9:30 - 10:30 Solutions for Nineteenth Century Manholes - **AP/M Permaform**
- 11:00 - 12:00 Manholes & Leakage Solutions
Sealing Systems

FRIDAY

February 27th, 2009

ROOM B101 & B102

Sewer Cleaning Track

- 8:00 - 9:00 High Pressure Hose Safety & Proper Use
Spir Star
- 9:30 - 10:30 The Better Jetter, Secrets to Jetting
US Jetting
- 11:00 - 12:00 Chemical Root Control
Douglas Products

ROOM B103 & B104

Business Track

- 8:00 - 9:00 Maintenance Agreements for Commercial Accounts
Spartan Tool
- 9:30 - 10:30 First Rate Customer Service
RooterMan
- 11:00 - 12:00 Insurance and Risk Management
Heffernan Insurance

ROOM C101-C104

Miscellaneous Track

- 8:00 - 9:00 Keys to Proper Power Take-Off
Muncie Power Products
- 9:30 - 10:30 Vacuum Tank, Chassis and Pumps
Amthor International
- 11:00 - 12:00 Lateral Replacement Program
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Avanti International
Bad Dog Tools
Badger Truck Center/Badger VACS
Baker Corp.
Bakers Waste Equipment
Bandlock Corporation
Banjo Corp.
BASE Engineering
BB & T Insurance Svc. Inc.
BDP Industries
Benjamin Franklin Franchising

Best Enterprises Inc.
Betts Industries
Big Fish Environmental, LLC
Bio Clean
Bio Microbics Inc.
Black Tie Manufacturing
Blasters, Inc.
Blue Angel Pumps
Boatman Industries
Bord Na Mona
Bowman Tool Co.
Brenlin Co., Inc.
Bright Dyes/Division Kingscote Chemicals
Bright Technologies
BW Technologies by Honeywell
Cadman Power Equipment
Cam Spray
Canplas Industries Ltd.
Cape Cod Biochemical Co.
Capital Partners
Capital Rubber Corp.
Cat Pumps Corporation
Center Capital Corporation
Century Chemical Corporation
Champion Pump Company, Inc.
Chandler Equipment Inc.
Chelsea Products/Div. of Parker
Chempore Corporation
Chempure Products Corp.
ChemStation International
Cherna Industries Inc.
City Meter, Inc.
Clear Computing
ClearPipe, Inc.
Clearstream Waste Water Systems Inc.
Cloverleaf Tool Co.
Cobra Technologies
Comforts of Home
Compliance Solutions
Concentric Enviro Inc.
Conjet AB / National Hydro, Inc.
Consolidated Treatment
Containment Solutions Inc.
Control Chief
Cook Compression
Coon Manufacturing, Inc.
Corpo-Track Systems LLC
Cosmic Tophat LLC
Cougar Industries Inc.
Coxreels
Cretex Specialty Products
Cross Bore Safety Association
Crust Buster/Schmitz Bros.
CUES Inc.
CuraFlo Technologies Inc.
Custom Biologicals Inc.
Cyclops Electronics, Inc.

Dahle USA
De Neef Construction Chemicals
Deal Associates
DekoRRa Products
Del Vel Chemical Co.
Delta Environmental
DermaRite Industries Inc.
Ditch Witch
Dometic Sanitation Systems
Doug Meadows Co. LLC
Dr. Shrink, Inc.
Dragon Products
Drainables Direct
Dresser Roots Blower
DropBox Inc.
Dultmeier Sales
Duracable Manufacturing
Durand-Wayland, Inc.
Dyna Flex Inc
Dyna-Vac Equipment
E.H. Wachs Company
Earth Friendly Chemicals, Inc.
Earth Tool Co.
Easy Liner
Ecological Laboratories Inc.
Ecological Tanks, Inc.
Elastic/American Marine
Electric Eel Mfg. Co. Inc.
Eljen Corporation
Engine & Accessory Inc.
Enviro Sludge Solutions
Environmental Products and Access.
Envirosight LLC
Enz USA Inc.
EPA-MOU Partners
Evergreen Tank Solutions
Explorer Trailers
EZ Trakr
Fabro Automotive Corp.
Famhost Hosted Applications
Federal Signal Emergency Products
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Fibox, Inc.
Fielding Pump
Financial Federal Credit Inc.
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Fruitland Tool & Manufacturing
Gamajet Cleaning Systems
GapVax Inc.
Gardner Denver Waterjet. Sys. Inc.
GEA Houle Inc.
General Pipe Cleaners
General Pump
Giant Industries Inc.
Global Pipeline Systems
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Go For Digger
Godwin Pumps of America Inc.
Goldak Inc.
Gorlitz Sewer & Drain, Inc.
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Happy Feet by V.P. Marketing LLC
Harben Inc.
Hart Industries
Haskel International, Inc.
Hauleragent
Hedstrom Plastics
Heffernan Insurance Brokers
Hi-Vac Corporation
Hibon, Inc./Div. of Ingersoll Rand
High Pressure Equipment Company
Highland Tank & Manufacturing
House of Imports
Hulls Truck Bodies
Hur Chemical Manufacturing
Hurco Technologies Inc.
Hy-Flex
Hydro Engineering Inc.
IHI Compact Excavator Sales
Imperial Industries Inc.
Industrial Diversified Products
Industrial Fabrics
Industrial Magnetics, Inc.
Infiltrator Systems Inc.
Infrastructure Repair Systems, Inc.
InfraTech
Insight Vision
ISCO Industries, LLC
ITI Trailers & Truck Bodies Inc.
IVS Hydro Inc.
J&J Chemical Company



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 Jag Mobile Solutions
 Jameson LLC
 Jet Inc.
 JETECH, Inc.
 Jetstream of Houston
 John Brooks Company Ltd.
 Juggler by Labrie
 KeeVac Industries Inc.
 KEG Kanalreinigungstechnik GmbH
 Keith Huber, Inc.
 Kentucky Onsite Wastewater Association
 Kentucky Tank, Inc.
 Key Commercial Corp.
 KMT/Aqua-Dyne Inc.
 Knight Treatment Systems, Inc.
 Kroy Industries
 Kuriyama of America Inc.
 L.C. Tanks
 L.M.T.
 La Place Equipment Co Inc.
 Lane's Vacuum Tank Inc.
 Lansas Vanderlans & Sons Inc.
 Leaders Resource Network
 Leaf Financial Corporation
 Lely Manufacturing
 Lenzyme Incorporated
 Liberty Financial
 Liberty Pumps
 Liquid Environmental Solutions
 Liquid Waste Technology
 Little Giant DBA Franklin Electric
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 Lodar
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 NILodor Inc.
 NLB Corp.
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 Norwesco
 NovaFlex Hose
 NOWRA
 NozzTeq™ Inc.
 NSF International
 Nu Flow Technologies Inc.
 Nu-Concepts
 Nuhn Industries Ltd
 Odour Treatment Essentials
 Ole's Hakai Pass
 Olympia Fiberglass Industries Inc.
 OMI Industries
 OMSI Transmissions Inc.
 One Biotechnology
 Ontario Hose
 Orenco Systems, Inc.
 Painters Union District 53
 Parker Hannifin Corp./PolyFlex Oper.
 Parson Environmental Products Inc.
 Pat's Pump & Blower
 Pearpoint Inc.
 Peinemann Equipment
 Pekasys
 Penny Pockets
 Pentair Water
 Perma-Liner Industries Inc.
 Petersen Products
 Pettit Environmental
 Philadelphia Fry-o-Diesel
 Phoenix Industries & Apparatus, Inc.
 PHOENIX Process Equipment
 Pik Rite Inc.
 Pinnacle Manufacturing
 Pipe Genie Mfg. Inc.
 PipeHunter
 PipeLogix Inc.
 PipeTech Software
 Piranha Hose
 Plug-It Products
 Plumbers Success International
 Pollardwater.com
 Poly-Flow
 Poly-Triplex
 PolyJohn Enterprises Corp.
 Polylok/Zabel
 PolyPortables Inc.
 Portable Sanitation Assoc. Int'l.
 Posey Hydro Solutions
 Pow-R Devices
 Power Vac Inc.
 Powertrack International Inc.
 Premier Tech Environnement
 Presvac Systems, Ltd.
 Prime Solution, Inc.
 ProClean by Duracable Mfg.
 ProSept Protection Plan
 Prototek
 Pumpbiz
 PUMPTEC
 Putzmeister America Water Technology
 Quadex Inc.
 Quality Service Contractors

Quality Tank Trucks & Equipment
 Quanis Inc.
 Rabco
 Rainbow Pumping Systems
 RapidView IBAK USA
 Ratech Electronics, Ltd.
 Rausch Electronics USA LLC
 RC Industries Inc.
 Real-Tite Plugs, Inc.
 REED Manufacturing Company
 Reelcraft Industries Inc.
 Reline America Inc.
 Rich Restrooms
 RIDGID
 Ring Industrial Group
 Ritam Technologies
 Robuschi & C.S.p.A.
 Rodman & Co., Inc.
 Roebic Laboratories, Inc.
 RootX
 Roth Global Plastics
 Rothenberger USA
 Roto-Rooter Corporation
 RotoSolutions
 RouteOptix Inc.
 RR USA, Inc.
 RS Technical Services Inc.
 Rush Refuse Systems
 Rush Sales
 Safe-T-Fresh Deodorizers
 Safety Corporation of America
 Safety Pumping Systems, LLC
 Safety Vision
 Salcor, Inc.
 Salem Republic Rubber Co.
 Satellite Industries Inc.
 Sauereisen, Inc.
 Savatech Corp.
 Schonstedt Instrument Company
 ScreenTech Imaging, a div. of Roeda Signs Inc.
 SEACON Brantner & Assoc. Inc.
 SealGuard
 Sealing Systems Inc.
 Septic Products Inc.
 Septic Services Inc.
 SeptiTech
 Septronics
 Sewer Equipment & Supplies
 Sewer Equipment Co. of America
 Shamrock Pipe Tools Inc.
 Sherwin Williams
 SIM/TECH Filter Inc.
 Simple Solutions Dist. LLC
 SJE-Rhombus
 SludgeHammer Group Limited
 SMC Grease Specialist
 Smithco Manufacturing
 Snyder Industries
 Spartan Tool LLC
 Specialty B Sales
 Spectrum Equipment Partners Ltd.
 Speedway Drain Cleaning Products
 Spir Star Inc.
 Sprayraq Inc.
 SRECO-FLEXIBLE, Inc.
 Stahlly Truck Applicators
 Stamp Works
 Standard Equipment
 Stellar Industries Inc.

Stephens Technologies
 Sto-Away Power Cranes Inc.
 StoneAge, Inc.
 Stormwaterworks.com
 Sunbelt Rentals
 Sunrise Environmental
 Super Products LLC
 Superior Signal Company
 SuperVac 2000
 T & T Tools Inc.
 Tank Technologies & Supply Co., LLC
 TCF Equipment Finance
 The Bosworth Co.
 The Strong Company
 Thompson Pump
 Toico Industries
 Tornado Technologies Inc.
 Tracker Solutions
 Transway Systems Inc.
 Tri State Tank LLC
 TRIC Tools Inc.
 Trident Insurance
 Triple R Specialty
 Tristar Capital LLC
 Triton Services, Inc.
 TRY TEK Machine Works, Inc.
 TSF Co. Inc.
 TSI Tank Services Inc.
 TT Technologies Inc.
 Tuf-Tite Inc.
 U.E.M.S.I.
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 URACA/Chemac Inc.
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 Vaporooter
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 Vermeer
 Vivax Corp.
 Walex Products Co.
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 Water Jet Technology Association
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 West-Mark Inc.
 Western Mule Cranes
 Westmoor Ltd.
 Wieser Concrete Products Inc.
 Wilko Supply
 WinCan America Inc.
 WMI, Inc.
 Wolf Creek Company, Inc.
 WolfCreek Jetting & Mfg., Inc.
 Worldwide Organics
 Xerxes Corporation
 Zoeller Pump Company

"Rules and Regs" is a monthly feature in Onsite Installer™. We welcome information about state or local regulations of potential broad interest to onsite contractors. Send ideas to editor@onsiteinstaller.com.

Idaho Raises Minimum Size for Systems

By **Scottie Dayton**

The Panhandle District Board of Health approved stricter onsite rules for North Idaho. The code currently requires systems to handle 150 gpd for one-bedroom homes and 50 gallons for each additional bedroom. Under the proposal, drainfields must handle 400 gpd for three-bedroom homes.

A study by district staff of 7,000 homes found that half had undersized onsite systems. Public health experts state that Idaho's septic codes are among the weakest in the nation and must be revised because developers are turning their atten-

tion to steep slopes and places where thin soils are unable to handle wastewater. After a public hearing, the health board must decide whether to submit the changes for legislative approval or wait another year in hopes of reaching additional consensus.

Washington State

Effective Jan. 1, state rules require septic tank and gravity drainfield systems to be inspected every three years, and all other onsite systems every year. Homeowners with gravity-flow or pressurized systems may conduct their

own inspections when certified through the free Homeowner Septic Training (HOST) program. Alternative treatment systems must be inspected by a licensed maintenance service provider. The regulations, phased in over 18 months, also include filing homeowner inspections with the County Public Health Department and a licensed inspection when properties are sold.

In another matter, Cowlitz County citizens objected to paying fees that would be imposed under a new septic system ordinance. The law would require onsite owners to have private contractors inspect their systems every three years, and in some cases annually. About 40 percent of the residents own onsite systems, some 10,000 septic tanks. Inspections would cost around \$125. Compliance would be voluntary.

Pennsylvania

An article in the September 2008 *PA Township News* reports that the state Department of Environmental Protection (DEP) decided not to release simultaneously a comprehensive package of six documents that will update onsite regulations. Such an action was

impossible due to DEP staff and budget limitations, and the shortage of pump-out operators and disposal facilities. The agency likely will focus on one draft document addressing site suitability and alternative analysis for new onsite systems. It includes a phased-in requirement for implementing sewage management programs based on housing density, and would allow townships to contract out their sewage management programs.

Virginia

The Loudoun County Board of Supervisors voted for a five-year ban on alternative onsite systems and to impose mandatory maintenance and inspection of existing systems. The action resulted when cities said that the technologies are prone to failure, especially if owners are unaware of their operational limitations and maintenance needs. Of the 14,000 onsite systems in the county, approximately 1,200 have advanced treatment technologies. Eighteen failed shortly after installation. Fauquier County, however, is allowing alternative systems in environmentally sensitive areas. ■

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Many of a Kind

An Alaska subdivision solves an onsite treatment problem with identical packaged treatment systems for each of 150 homes

By **Scottie Dayton**

A flood in 2006 washed out an upstream dike, inundating the 150-home Alpine Woods subdivision on the Lowe River, built in the mid-1970s, 10 miles north of Valdez, Alaska. The development was unsewered. Fearing contaminated wells, city officials sampled them and found coliform bacteria.

The flood helped bring to light improperly sized onsite systems, faulty installations, failed drainfields, ponded sewage within 10 feet of salmon streams, and the occasional homemade 55-gallon-drum septic tank. In 2007, the city of Valdez annexed Alpine Woods.

In 2008, the city received a grant from the state's Department of Environmental Conservation to

solve the septic problems. Residents shot down the suggested cluster system because it sounded like city sewer to them.

The city's request for qualifications attracted David Lanning, P.E., of Lanning Engineering in Fairbanks, and Sheldon Shaw, P.E., of Northern Soil & Water in Valdez. They faced high groundwater, power consumption and environmental issues, small lots, the need to reuse as many functioning drainfields as possible, and a city that didn't want responsibility of monitoring 150 individual systems.

The solution was a pre-plumbed, pre-wired, fully assembled treatment package for each lot, with textile media filter and ultraviolet disinfection. Nine of 20 units in



Phase I had been installed by late October, and Phases II and III await funding and the spring thaw.

Site conditions

Soils are gravel river bed with head-size rocks and patches of sand and silt. The seasonal high water table is 12 inches below grade. The topography is flat. The area is rich in salmon streams, and the Lowe River flows past the site to Prince William Sound.

System components

All 150 systems are identical for ease of installation and maintenance. Lanning and Shaw sized them to handle 450 gpd. The major components are:

- 1,500-gallon, dual-compartment fiberglass septic tank. Treatment system package from Orenco Systems Inc., Sutherlin, Ore.

To prepare for pouring the concrete ballast, the crew removed any large rocks that might damage the tank. The old tank to the left was abandoned in place. (Photos courtesy of Anchorage Tank)

- Biotube pump vault with high-head 1/2-hp effluent pump.
- AdvanTex AX20 secondary treatment fiberglass filter pod.
- Recirculating splitter valve in the riser.
- 24-inch-diameter fiberglass discharge pump basin with ultraviolet lamp.
- High-head 1/2-hp demand-dose pump.
- VeriComm Web-based monitoring system and control panels.

System operation

Sewage gravity flows through a 4-inch PVC lateral to the first compartment in the septic tank, then into the second chamber (recirculation tank), where the pump vault

System Profile

Location:	Valdez, Alaska
Facility served:	3-bedroom homes
Designers:	David Lanning, P.E., Lanning Engineering, Fairbanks; Sheldon Shaw, P.E., Northern Soil & Water, Valdez
Installer:	King Bee Equipment Inc., Fairbanks
Site conditions:	Gravel riverbed with head-size boulders; patches of sand and silt. Seasonal high water table at 12 inches.
Type of system:	AdvanTex treatment system package, Orenco Systems Inc., Sutherlin, Ore.
Hydraulic capacity:	450 gpd



filters out solids. The pump runs 20 seconds every 19.5 minutes, sending 15 gallons of effluent to the filter pod. As liquid trickles through sheets of synthetic textile in the unit, microorganisms remove impurities.

Effluent at the bottom of the pod gravity flows back to the recirculation tank and keeps recirculating until the compartment is full. A splitter valve then alternately doses the discharge pump basin and recirculation tank.

Inside the pump basin, effluent gravity flows through a UV lamp before entering the chamber. The liquid, although now safe for surface discharge, is pumped to the

While water rushed in and the excavation kept sloughing off into the hole, it became apparent that bigger equipment was needed for the job.



Morning snow melts away as the crew puts the finishing touches on a front-yard installation. The disposal field is the small mound in the background.

drainfield on demand. Where necessary, replacement drainfields are 30 feet by 15 feet wide with a 2-inch PVC distribution pipe. A manifold directs the effluent to one of five 15-foot by 1/2-inch laterals on 6-foot centers. The laterals are not backflushed.

Installation

Valdez runs on hydroelectric power in summer, but relies on diesel generators when the rivers freeze. Power costs average 30 cents per kWh year-round. Lanning and Shaw determined that the AdvanTex was the most energy-efficient aerobic treatment unit.

System components, shipped nested together, arrived in Anchorage on a barge. Orenco representatives instructed Tom Varney, AdvanTex coordinator at Anchorage Tank, and his employees how to assemble the parts. A special saddle enabled them to glue the 7.5- by 3- by 2.5-foot filter pod to the top of the recirculating tank, then glue the pump basin next to the tank. Risers were glued, too. Once plumbed and wired, the unit was ready to drop in a hole and plug in.

A layer of concrete was poured around the system to counter the buoyancy forces of the groundwater below. The system is shown ready for backfilling.

Assemblies were shipped three-by-three on flatbed trucks 306 miles to Valdez. The city hired King Bee Equipment Inc. in Fairbanks to install them, as local contractors lacked large enough equipment. King Bee foreman Shawn Zorich's first challenge was to transport the equipment 350 miles south on the two-lane Richardson Highway.

The most challenging of the first four installations was a three-bedroom home close to the Lowe River. As soon as the 5-foot-wide backhoe bucket scooped out material, water filled the hole. Zorich used a Tsurumi 6-inch, 36-hp Deutz trailer-mounted diesel-powered trash

its green rectangular lid at grade."

The pods have 1-inch-thick blueboard sheet insulation glued to the undersides of the lids. Besides pumping warm water from the tank three times per hour, the biological action generates heat. "I've opened units in winter and steam rolls out," says Varney. "People don't believe it until they see it."

Valdez is famous for its 10-foot snowfalls, creating another challenge — where to install the filter pods' air vents so the AX20s can breathe during winter. "I ran them up the wall of a house, up a tree, and even planted a pole next to one system," Zorich says.

Maintenance

Anchorage Tank holds the service contract, which is for the life of the system and is renewed annually. The local service provider is sub-

"The monitoring system alerts me well in advance of small problems becoming emergencies. Tweaking the system via computer is often the only required action."

Tom Varney

pump to keep the river out of his 7-foot-deep excavation, then bedded it with 6 inches of pea gravel.

Before setting the tanks, workers water-tested them to make sure the trip hadn't compromised their integrity. The water also held them in position during backfilling with pea gravel up to the joint on the septic tank. "We poured concrete deadmen on top of the seam rim and around the pump basin," says Zorich. "The filter pod is buried with

contractor Mike Congel of Valdez Construction Co. E-mails from the VeriComm panels come to Varney's computer.

"The monitoring system alerts me well in advance of small problems becoming emergencies," he says. "Tweaking the system via computer is often the only required action." He faxes scheduled or emergency inspections to Congel.

Orenco provides a detailed checklist for the yearly inspections. Tanks with 24 inches of sludge require pumping. Homeowners receive copies of the inspection reports and a list of calls made by the control panel, identifying what was reported and what the service provider did. The complete system history is stored for Realtors and regulators. ■

MORE INFO:

5 Orenco Systems Inc.
800/348-9843
www.orenco.com

NAWT White Paper

The National Association of Wastewater Transporters Board of Directors wrote a white paper, responding to a memo from Sen. Timothy Grendell, who represents Ohio's 18th District. In his letter to the state's Home Sewage and Small Flow Onsite System Sewage Treatment System Study Commission, Grendell said periodic onsite system inspections are infeasible: Most local health districts lack the money or personnel, private companies are untrustworthy, and land-owners can't afford the salaries of newly hired field sanitarians or sophisticated, costly onsite systems.

Grendell proposed allowing local health districts establish their own rules, saying the cheapest onsite system meeting minimum health standards is all the commissions should require.

NAWT's response reiterated the 1997 EPA Report to Congress on onsite systems, explained the role of NAWT and its Memorandum of Understanding partners in educating homeowners and industry participants, and gave examples of states with regulations that incorporate NAWT training. The paper is online at www.nawt.org.

Ontario

The Ontario Association of Sewage Industry Services (OASIS) announced that the Ministry of Environment approved plans to build a 10-MW power plant in Hamilton fueled with biosolids and plant waste. California-based Liberty Energy aims to make it the first such facility in North America. Burning the mixture in two incinerators will produce enough renewable energy to supply 8,000 homes.

Liberty is seeking municipal biosolids management contracts, and will build only when it lines up sufficient tonnage. Capacity is said to be 340,000 metric tons of biosolids and 130,000 metric tons of biomass per year. OASIS sees the implications for septage haulers as encouraging. The demand for

biosolids could end the practice of land-spreading by providing sufficient capacity to treat it at municipal plants.

CALENDAR OF EVENTS

Jan. 13-15

Michigan Onsite Wastewater Recycling Association Conference and Exhibit, Kellogg Hotel and Conference Center, East Lansing. Call Chanin Frank at 989/773-6985, ext. 258, or visit www.mowra.org.

Jan. 13-15

Iowa Onsite Waste Water Association Conference, Polk County Convention Center, Des Moines. Call 515/225-1051 or visit www.iowwa.com.

Jan. 13-15

Ohio Onsite Wastewater Association Conference and Trade Show, Ramada Plaza Hotel and Conference Center, Columbus. Call 866/843-4429 or visit www.ohioonsite.org.

Jan. 15-17

Oregon Onsite Wastewater Association Conference, Corvallis. Call Belinda Rasmussen at 541/389-6692 or visit <http://oronsite.org>.

Jan. 18-20

Pennsylvania Septage Management Association Conference, Holiday Inn, Grantville. Call 717/763-7762 or visit <http://psma.net>.

Jan. 19-21

Missouri Smallflows Organization Conference and Exhibition, Holiday Inn Select, Columbia. Call 417/739-4100 or visit www.mo-smallflows.org.

Jan. 22-24

Alberta Onsite Wastewater Management Association Conference, Deerfoot Inn and Casino, Calgary. Call 780/489-7471 or visit www.aowma.com.

Jan. 22-24

Washington Onsite Sewage

Association Conference, Vancouver. Call John Thomas at 253/297-2837 or visit www.wossa.org.

Jan. 26-27

Indiana Onsite Waste Water Professional's Association Conference, Camp Camby, Camby. Call Scott Rexroth at 317/889-2382 or visit www.iowpa.org.

Jan. 26-28

North Carolina Septic Tank Association Conference and Exposition, Hickory Metro Convention Center, Hickory. Call Connie Stephens at 336/416-6394 or visit www.ncsta.net.

Jan. 30-31

Wisconsin Liquid Waste Carriers Association and Wisconsin Onsite Water Recycling Association Joint Convention, Marriott West Hotel, Madison. Call 608/255-2770 or visit www.wowra.com.

Feb. 5-6

Ohio Water Quality & Waste Management Conference, Holiday Inn on Lane, Columbus. Call 614/292-8571 or visit <http://setll.osu.edu>.

Feb. 11-12

Nebraska On-site Waste Water Association Conference. Call Lee Orton at 402/476-0162 or visit www.nowwa.org.

Feb. 14-15

Utah On-Site Wastewater Association Conference, Expo Center, West Valley City. Call Carmell Burns at 435/797-3174 or visit <http://uwrl.usu.edu/partnerships/training/uowa.html>.

Feb. 25-28

Pumper & Cleaner Environmental Expo International, Kentucky Exposition Center, Louisville, Ky. Call 800/257-7222 or visit www.pumpershow.com.

March 1-4

Ontario Onsite Wastewater Association Conference and Exhibition, Sheraton Conference Centre, Richmond Hill. Call Denis Orendt at 905/372-2722 or visit www.oowa.org.

March 3-4

Texas On-Site Wastewater Association Conference, Waco. Call 888/

398-7188 or visit www.txowa.org.

March 8-10

Pennsylvania Association of Sewage Enforcement Officers Conference, Grantville. Call 717/761-8648 or visit www.pa-seo.org.

March 18-19

Tennessee Onsite Wastewater Association Continuing Education Workshop and Annual Meeting, UAW Union Hall, Spring Hill. E-mail Scott Fellwock at scott.fellwock@nashville.gov or visit <http://onsite.tennessee.edu/TOWA.htm>.

TRAINING & EDUCATION

Pipelayer certification

The University of Minnesota Extension is offering a three-hour workshop to accommodate a change in the state plumbing code that states all onsite system installers must be certified pipelayers, licensed plumbers or registered apprentices to install sewer or water pipes outside of a building.

- Jan. 28 – Fergus Falls
- March 12 – Owatonna
- March 27 – Willmar
- April 17 – Sauk Centre

Call Nick Haig at 800/322-8642 (612/625-9797) or visit <http://septic.umn.edu>.

NAWT

The National Association of Wastewater Transporters Vacuum Truck Technician Training is Feb. 24 in Louisville, Ky. Call 800/236-6298 or visit www.nawt.org.

Minnesota

The University of Minnesota Extension has these classes:

- Feb. 2-4 – Introduction to Onsite Systems, St. Cloud
- Feb. 5-6 – Installing Onsite Systems, St. Cloud
- Feb. 9-11 – Pumping/Maintenance, Brainerd
- Feb. 12-13 – Continuing Education, Bemidji

Call Nick Haig at 800/322-8642 (612/625-9797) or visit <http://septic.umn.edu>.

Texas

The Texas On-Site Wastewater Association is offering a Basic Maintenance Provider course.

- Jan. 9-10 – Sequin

Call 888/398-7188 or visit www.txowa.org.

Virginia

The following courses by the Virginia Onsite Wastewater Recycling Association and Virginia Center for Onsite Wastewater Training (VCOWT) are at Blackstone unless indicated otherwise:

- Feb. 11-12 – National O&M Training, Loudoun
- Feb. 18 – Proprietary System Training

For VCOWT classes, contact Debbie Campbell at 434/736-2011 or visit www.southside.edu/programs/wastetreat. For VOWRA courses, contact Jeff Barr at 703/771-5250 or visit www.vowra.org.

Washington State

The Washington Onsite Sewage

Association and the state's Department of Health in cooperation with Washington State University are offering these certification courses at the training center in Puyallup unless stated otherwise:

- Jan. 7 – Proprietary Systems
- Jan. 8 – Maintenance Basics
- Feb. 4 – Basics of Onsite Sewage, Spokane
- Feb. 18 – Designers: Exploring and Understanding Soil, Mt. Vernon
- Feb. 26 – Maintenance Basics, Port Angeles

Call WOSSA at 253/770-6594 or visit www.wossa.org.

Onsite Installer invites your state association to post notices and news items in this column. Send contributions to editor@onsiteinstaller.com. ■

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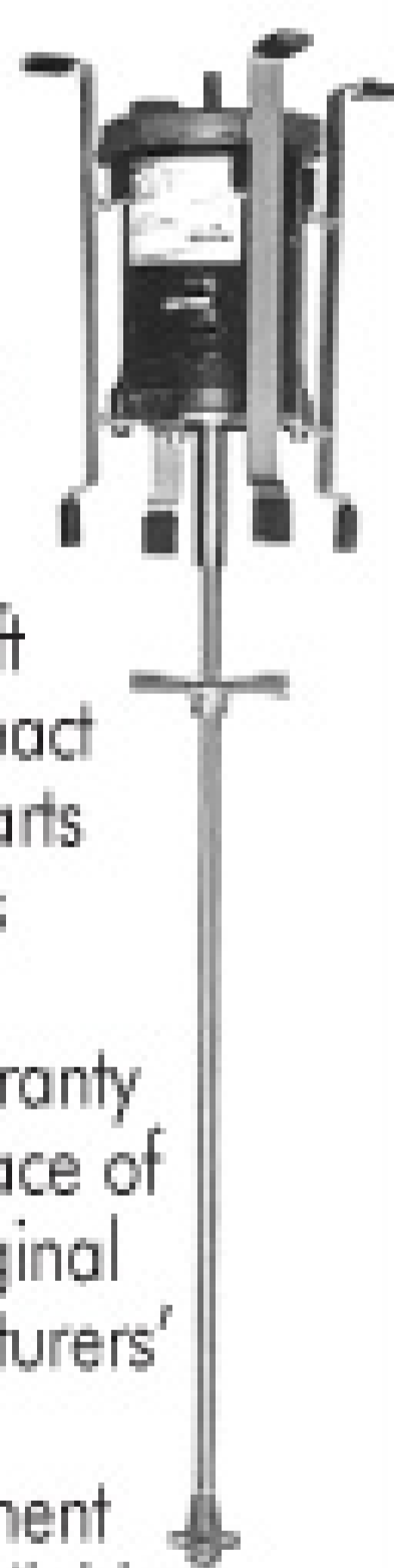
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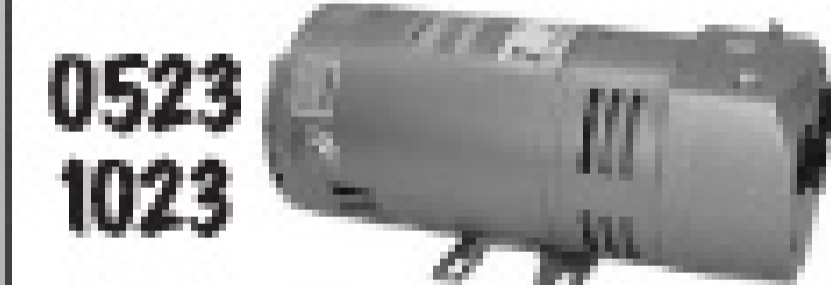
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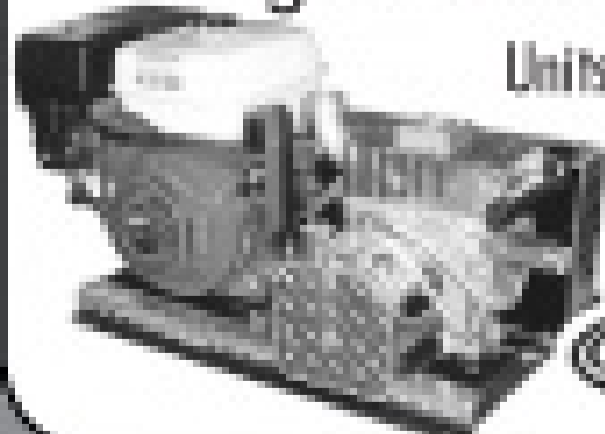
R3105-12 Blower



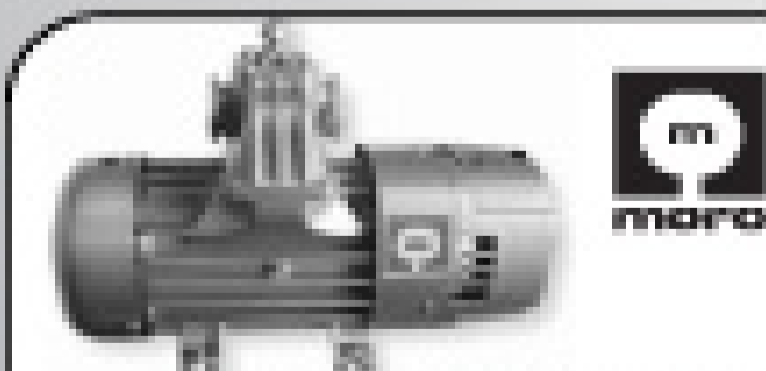
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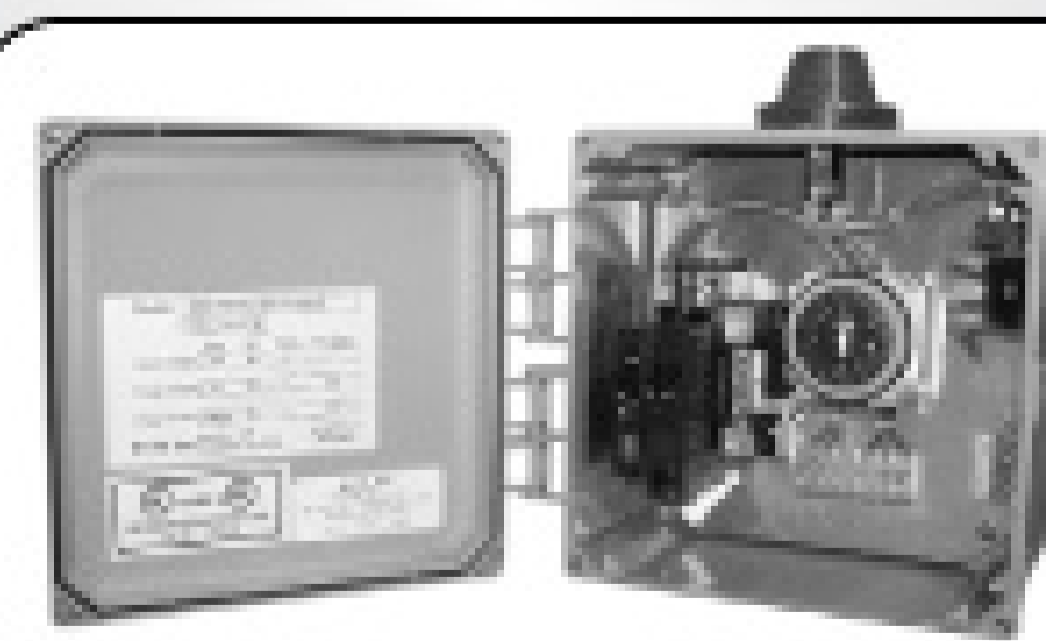
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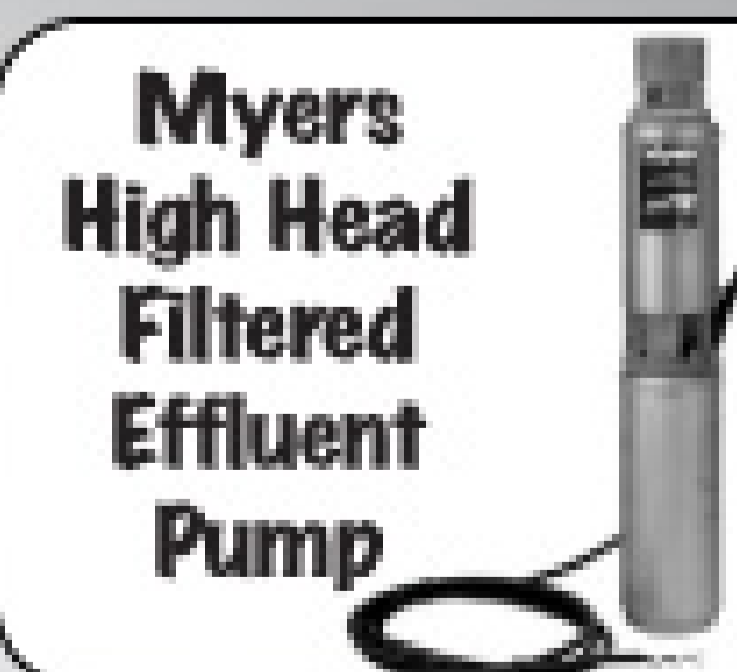
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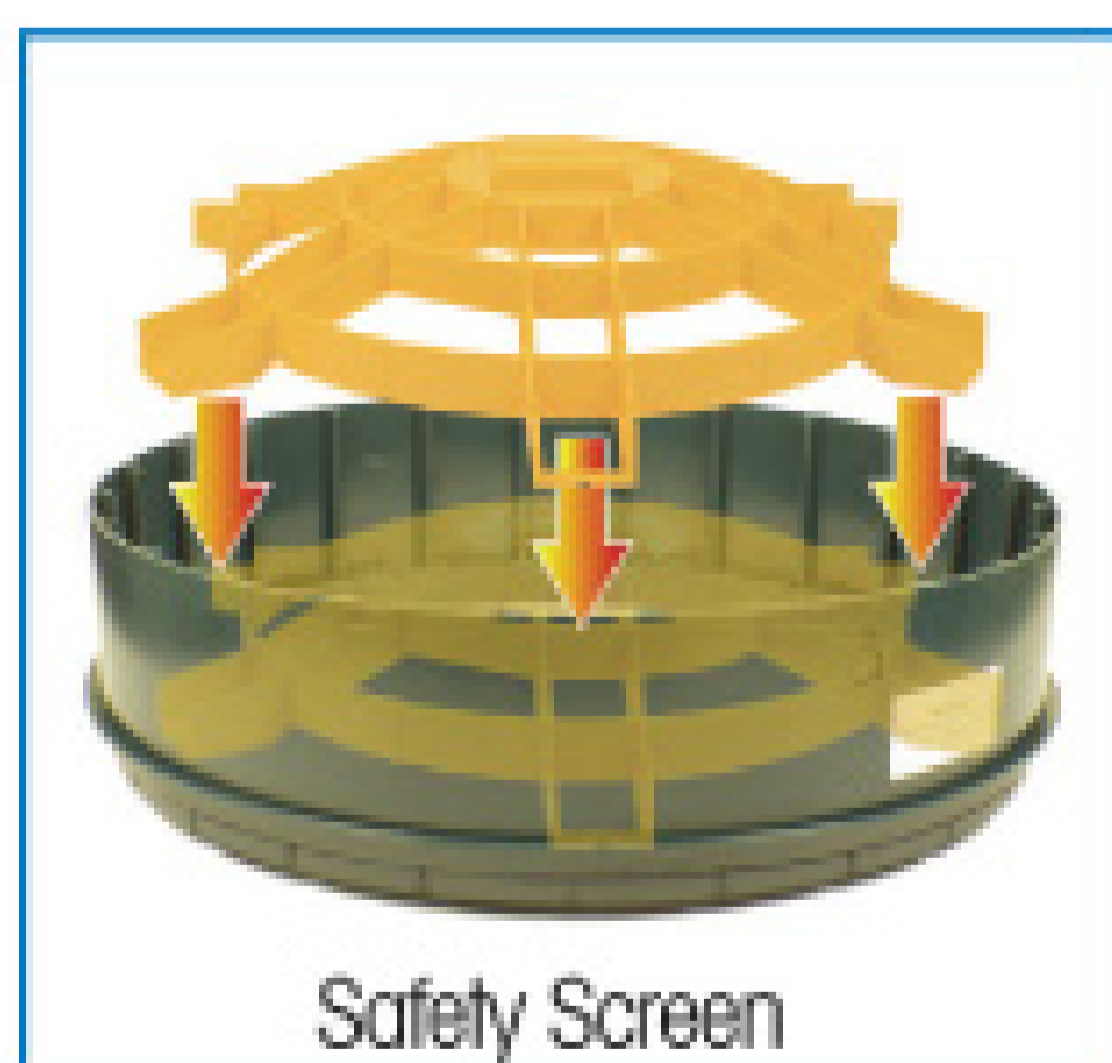
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