

January

2012

ONSITE installer™

PROMOTING WASTEWATER TREATMENT QUALITY AND PROFESSIONAL EXCELLENCE www.onsiteinstaller.com

Installing Drainfields
Page 14

Drainfield Media 101
Page 18

ATUs for a travel center
Page 24



Feb. 27- March 1
Product Preview page 28



Florian
& Sons

Straddling BORDERS

Florian & Sons navigates the regulatory
environs of two neighboring states **PAGE 8**

contents

January 2012



COVER STORY

8 Straddling Borders

By Gil Longwell

ON THE COVER: Florian & Sons works on an evolving business model that accounts for regulatory and other differences between Minnesota and North Dakota. Pictured from left are owner Glen Gonsorowski with crew members Bruce Otteson, Randy Storey and Cameron Deleski. (Photography by Eric Hylden)

6 Breaking Ground: What's Buildable?

Progress in onsite technology has opened more sites to development while giving people with failed systems more options than they had before.

By Ted J. Rulseh, Editor

12 2012 Expo: Learning From the Champions

By Ted J. Rulseh

14 Basic Training: Keep It Dry

A key principle of soil treatment unit installation is to avoid working the soil when it is too wet, avoid saturated soils, and consider runoff on the property.

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

16 Rules and Regs: Maryland Governor to Reintroduce Septic System Ban

By Scottie Dayton and Doug Day

18 Tech Talk: Drainfield Media 101

Today's installers have multiple choices in media alternatives to traditional aggregate. Choices are available to suit the needs of almost any site and type of treatment system.

By Dennis F. Hallahan, M.S., P.E.

24 System Profile: Travel on Schedule

A fast-track installation involving high-strength aerobic treatment units allows a freeway travel center to open on time.

By Scottie Dayton

28 2012 Expo Product Preview: A Full House

It's going to be wall-to-wall tools and equipment to build your business at the 2012 Pumper & Cleaner Environmental Expo.

By Ed Wodalski

36 2012 Expo: Rockin' Rodney

Red-hot country singer and authentic American success story Rodney Atkins will "cut loose and have fun" at the Pumper & Cleaner Expo.

By Jim Kneiszel

38 Notes from NOWRA: A Good Investment

The 2012 NOWRA Annual Conference is the place to get knowledge and ideas that can give you a critical edge on your competitors.

By Eric Casey

39 Industry News

39 Letters to the Editor

40 Association News

News; Calendar of Events; Training & Education

ONSITE installer

Published monthly by

COLE publishing

1720 Maple Lake Dam Rd. • PO Box 220 • Three Lakes, WI 54562

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

Website: www.onsiteinstaller.com

Email: info@onsiteinstaller.com • Fax: 715-546-3786

SUBSCRIPTIONS

A one year (12 issue) subscription to *Onsite Installer*™ in the United States or Canada is free to qualified subscribers. A qualified subscriber is any individual or company in the United States or Canada that partakes in the installation, design, maintenance, manufacture, treatment, consulting or sale of onsite wastewater treatment systems or supplies. Non-qualified subscriptions are available at a cost of \$60 per year in the United States and Canada/Mexico. Subscriptions to all other foreign countries cost \$80 per year. To qualify, visit www.onsiteinstaller.com/order/subscription or call 800-257-7222.

Our subscriber list is occasionally made available to carefully selected companies whose products or services may be of interest to you. Your privacy is important to us. If you prefer not to be a part of these lists, please contact Nicole at nicolel@colepublishing.com.

CLASSIFIED ADVERTISING

Minimum rate of \$25 for 20 words; \$1 per each additional word. All classified advertising must be paid in advance. DEADLINE: Classified ads must be received by the first of the month for insertion in the next month's edition. PHONE-IN ADS ARE NOT ACCEPTED. Fax to 715-546-3786 only if charging to MasterCard, VISA, Discover or AmEx. Include all credit card information and your phone number (with area code). Mail with check payable to COLE Publishing Inc. to the address above. CLASSIFIED ADVERTISING APPEARS NATIONWIDE AND ON THE INTERNET. Not responsible for errors beyond first insertion.

DISPLAY ADVERTISING

Contact Winnie May at 800-994-7990. Publisher reserves the right to reject advertising which in its opinion is misleading, unfair or incompatible with the character of the publication.



Winnie May

EDITORIAL CORRESPONDENCE

Send to Editor, *Onsite Installer*, P.O. Box 220, Three Lakes, WI, 54562 or email editor@onsiteinstaller.com.

REPRINTS AND BACK ISSUES

Visit www.onsiteinstaller.com for options and pricing. To order reprints, call Jeff Lane at 800-257-7222 (715-546-3346) or email jeffl@colepublishing.com. To order back issues, call Nicole at 800-257-7222 (715-546-3346) or email nicolel@colepublishing.com.

CIRCULATION

Circulation averages 21,421 copies per month. This figure includes both U.S. and International distribution.

© Copyright 2012 COLE Publishing Inc.

No part may be reproduced without permission of the publisher.



**PUMPER & CLEANER
ENVIRONMENTAL EXPO
INTERNATIONAL**

www.pumpershow.com

Education Day: Feb. 27, 2012 Exhibits Open: Feb. 28 - March 1, 2012
Indiana Convention Center, Indianapolis, Indiana

Coming Next Month: February 2012

Issue Focus:

Pumper & Cleaner Environmental Expo Show Issue

- Profile: AAA Allied Septic Tank Service, Santa Fe, N.M.
- O&M Matters: Understanding aerobic treatment units (ATUs)
- Basic Training: More on soil treatment unit installation basics
- System Profile: Membrane solution for a dream home in western Idaho

Now Available in S, M, L, and XL



One size doesn't fit all.

Orenco's AdvanTex filters are now available for flows from 500 to 15,000 gpd. (That's our new AX-Max, the big guy, in the back.)

Small flows or big flows. Residential or commercial. Tight lots or generous lots. In-ground or above-ground. Single filters or multi-filter arrays. We have a model — and a configuration — that will work for you.

Regardless of size, though, ALL AdvanTex systems treat wastewater to better than secondary standards. Quietly.

Without odors. While using hardly any electricity.

ALL AdvanTex systems are modular. All use Orenco's watertight fiberglass tanks. And all are easy to maintain.

Don't oversize or undersize your system. To get the right fit for the job, plus the name of an AdvanTex Dealer near you, call Orenco at 800-348-9843. We've got a lot more to talk about!

See us at
Pumper
Booth 6040

AdvanTex[®]
Treatment Systems



Presby Environmental

The Next Generation of Wastewater Treatment Technology

“The first installation went in pretty quick,



The second was even easier,

By the third the entire crew said...

‘Don’t design anything else!’

After 15 years our customers are 100% satisfied.”

~ Larry Rexford, NH Licensed Designer & Installer
Wendell Rexford and Sons Construction, Inc.



SPD & CTD Models
Certified to NSF/ANSI
Standard 40 Class I



Booth
1021

Find out why so many Designers and Installers rely on...

Advanced Enviro-Septic® (AES) Onsite Wastewater Treatment System

www.PresbyEnvironmental.com • 800-473-5298

advertiserindex

JANUARY 2012

COMPANY	PAGE
Alderon Industries, Inc.	12
Alita Industries, Inc.	26
Bio-Microbics, Inc.	17
Seal-R BrenLin Company, Inc.	17
Clarus Environmental	5
CSI Controls	21
DekoRRa Products	27
Eljen Corporation	15
Fergus Power Pump, Inc.	26

COMPANY	PAGE
Hedstrom Plastics	27
Infiltrator Systems, Inc.	7
Jet, Inc.	43
NAWT, Inc.	33
Orengo Systems, Inc.	3
Pagoda Vent Company	43
Polylok/Zabel	44
Presby Environmental, Inc. Presby Environmental	4

COMPANY	PAGE
RCS II, Inc.	43
Roto Solutions, Inc.	43
Salcor, Inc.	11
Septic Services, Inc.	20
Septronics, Inc.	33
SIM/TECH FILTER, Inc.	21
Simple Solutions Simple Solutions LLC	43
SJE-Rhombus®	27

COMPANY	PAGE
SPI - Septic Products, Inc.	39
T & T Tools, Inc.	20
The Dirty Bird	43
The Shaddix Company, Inc.	43
Tuf-Tite, Inc.	13
Wieser Concrete Products, Inc.	21

Established in 2004, Onsite Installer™ fosters higher professionalism and profitability for those who design and install septic systems and other onsite wastewater treatment systems.

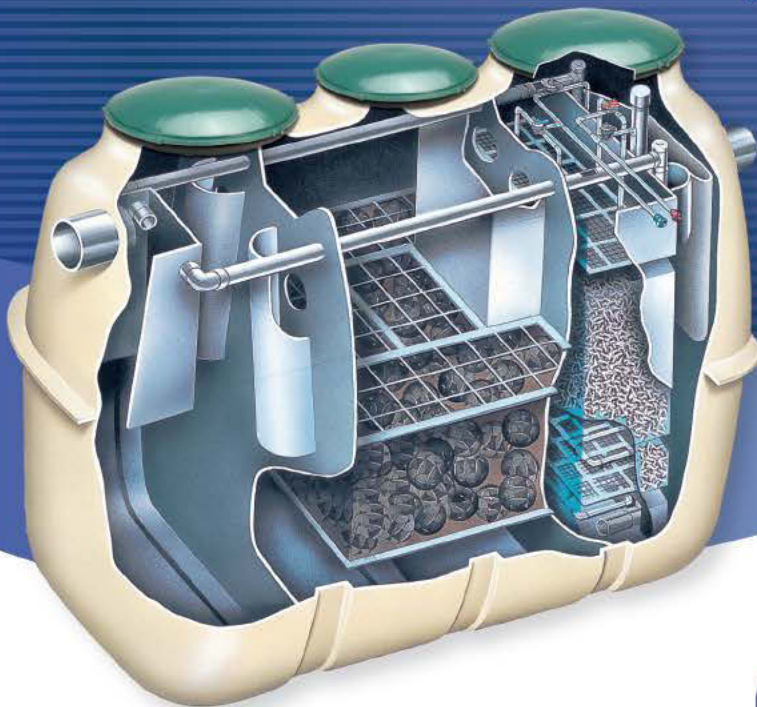
FREE Subscription at
onsiteinstaller.com

quality
service
innovation
integrity

BRINGING IT ALL TOGETHER

**Eco friendly
wastewater
treatment**

Clarus Environmental's **Fusion Series** combines anaerobic, aerobic, recirculation, fixed film and backwash processes to provide a superior wastewater treatment system. Pre-assembled, drop-in systems with only four piping connections make residential and commercial installations simple. Fusion Series units are **easily adapted to work with existing systems** and do not require septic tanks unless mandated by local regulations. Fusion is a collaboration with Fuji Clean.



**Your Peace of Mind
is Our Top Priority®**

1-877-244-9340

www.clarusenvironmental.com



Like us on Facebook!
facebook.com/ZoellerPumpCompany

 **CLARUS**™

ENVIRONMENTAL

Zoeller Family of Water Solutions™

Feedback

Onsite Installer™ welcomes your comments, ideas and suggestions on how we can serve you better. Call 800/257-7222; fax 715/546-3786; or email editor@onsiteinstaller.com.

What's Buildable?

Progress in onsite technology has opened more sites to development while giving people with failed systems more options than they had before

By Ted J. Rulseh, Editor



Not so long ago, there were few options for people who wanted to build homes on soils less than ideal for septic systems. A perc test was performed. If the site passed, the lot was “buildable.” If not, it wasn’t – or maybe you could get a permit for a mound.

About 25 years ago, my wife and I looked at a lot on a favorite “up north” fishing lake of mine. A large share of it was low and wet; there was a postage-stamp-sized place where maybe a drainfield would fit, if the soil would perc. In actual fact we had no way to afford the lot, so we never found out if it was truly “buildable.” I’m betting, though, that it would be today. Why? Technology.

Whether you happen to be in Kansas, Wisconsin, Alaska or Pennsylvania, effluent at 10 mg/l BOD and TSS is essentially the same water, no matter whose unit it comes from. So why all the nervousness about the different units?

Making it possible

How things have changed! Innovative treatment units now make it possible to design onsite systems to function on almost any kind of site – rocky, high ground water, rugged, hilly, near a lake, tiny, confined.

So “buildable” becomes almost a given. It’s more a question of “buildable at what price?” In System Profiles on these pages we regularly report on cases where the right onsite system enabled a couple to build their dream house, a children’s camp with a failed system to keep operating, a new business to open.

If “to everything there is a season,” then maybe “to every site, there is a solution.” I am quite sure it would be technically possible (though likely not affordable) to build a treatment system for a house sitting on stilts in a wetland. All right, probably not with a soil treatment area, but the fact remains, technologies exist that could put out water of suitable quality for direct discharge.

Land use patterns

These technologies – ATUs of all kinds, membrane bioreactors, aerobic microbial generators, sand filters, UV disinfection systems and more – can have impacts on land use that should not be underestimated.

It was perhaps 15 or 20 years ago that my state of Wisconsin began allowing some advanced treatment systems, and the news at the time said one effect would be the protection of farmland. Onsite systems were no longer limited to land with high-quality agricultural soils. Now homes and subdivisions could be built on more marginal soils, leaving the best land to produce crops.

So here we have all these great technologies, yet regulators are still somewhat in the “dip a toe in the water” stage – the treatment units tend to get approved one brand or model at a time, state by state. And, appropriately, advanced systems come with various kinds of maintenance requirements, because where the environment is more sensitive the consequences of failure are greater.

Why so slow

But why all this hesitancy? Different states and counties may have different regulatory schemes, different traditions, and different soil types to deal with, but in the end it would seem what matters most is what comes out of the treatment unit and enters the soil. Whether you happen to be in Kansas, Wisconsin, Alaska or Pennsylvania, effluent at 10 mg/l BOD and TSS is essentially the same water, no matter whose unit it comes from. So why all the nervousness about the different units?

Yes, every treatment unit new to the marketplace has to be tested and proven, but isn’t that why we have NSF?

Last year, in sort of a historic occurrence, NOWRA held its annual conference in conjunction with the National Environmental Health Association (NEHA) and the State Onsite Regulators Alliance (SORA). If these three groups are looking for a joint project going forward, maybe it could involve finding a way to speed up adoption of already-tested and already-proven treatment systems across state and county borders.

Then maybe landowners, installers and designers dealing with challenging sites would have more options. And maybe whoever may be looking at that “up north” lot my wife and I once explored would have more assurance that it’s “buildable.” □

You'll call it
strong
state-of-the-art
cutting-edge
innovative
well-built
groundbreaking

We just call it our IM-1060

REDEFINING

STRENGTH

A revolutionary advancement in septic tank design



INFILTRATOR®
systems inc.



Introducing the lightweight, strong and durable Infiltrator IM-1060 septic tank. A revolutionary improvement in plastic septic tank design, the injection molded IM-1060 offers exceptional long-term strength and is available with Infiltrator's line of custom-fit risers and heavy duty lids. The engineered mid-seam joint accepts a continuous-loop EPDM gasket. The IM-1060 is an environmentally-friendly product, made from recycled materials.

The Infiltrator IM-1060 is suitable for use as a septic tank, pump tank, or rainwater (non-potable) tank. Infiltrator's EPDM gasket design utilizes technology and materials from the sanitary sewer pipe industry to deliver a reliable watertight seal. The two-piece tank body is permanently aligned and fastened using an integrated system of high-strength plastic alignment dowels and locking seam clips. The tank can be installed with 6" to 48" of soil cover, does not require water filling during installation, and can be pumped dry during pump-outs. Fully assembled IM-1060 tanks are sold through a network of certified Infiltrator distributors.

www.infiltratorsystems.com • 800.221.4436



Onsite technician Randy Storey guides a septic tank from Strata Corporation into the hole. (Photography by Eric Hylden)

Straddling BORDERS

Florian & Sons works on an evolving business model that accounts for regulatory and other differences between Minnesota and North Dakota

By Gil Longwell

Glen Gonsorowski, second-generation owner of Florian & Sons Excavating, grew up watching his dad periodically refocus the business to succeed in a complex marketplace.

Working in a growing border area covering parts of North Dakota and Minnesota, and with a service territory extending to a 50-mile radius

around Grand Forks, N.D., the company has always been ready and able to go where the work led. As the focus changed, the business added or changed services.

When Florian Gonsorowski opened the doors in 1953, septic tank pumping and line cleaning were the key services. Later, he added onsite system installation, service and repairs and dropped pumping. When the company expanded into general excavating, installation work continued, but with less emphasis.

“Dad always had his eye on the future and was constantly trying to anticipate new business opportunities.”

Glen Gonsorowski

The business traditionally served both states, but recent events have forced Gonsorowski to refocus again. Today, claiming a specialty in “construction from the ground down,” the company combines onsite system work with specialties in site development, utility infrastructure, paving and general excavating.

Florian & Sons Excavating Inc., Grand Forks, N.D.



- OWNER:** Glen Gonsorowski, second generation
- EMPLOYEES:** 15
- YEARS IN BUSINESS:** 57
- MARKET AREA:** 50-mile radius
- SPECIALTIES:** Site development, utility infrastructure, paving, general excavating
- WEBSITE:** www.floriansexcavating.com

To remain competitive, the company has charted somewhat different courses in each state capitalizing on experience and well-honed skills to stay ahead of the industry's and government's wconstant evolution.

Familiar with change

Gonsorowski learned from his father to keep an eye on the future and constantly anticipate business opportunities. In 1970, the firm offered rental trackhoe service with two machines – new technology that very few other contractors had. Opportunities were abundant, and Gonsorowski often was gone for a week at a time, moving from job to job.

“The trackhoes made work so much faster that other contractors with backhoes would hire us to do their digging,” he says. “Even after paying us, they could still make money.”

Then things changed. Today, there are more than 100 trackhoes within 50 miles. “It makes no sense to incur the costs of hauling a machine 50 miles, then fight a bidding war that just drives your income down,” Gonsorowski says.

The onsite business developed with a change in the local culture. For years, the typical single-family home was served by a cistern. “A cistern is a concrete tank used to supply all of the family's water needs,” he says. “It also limits the family's use of water and reduces demand on their onsite system.

“When abundant water became available, cisterns were quickly abandoned, and almost as quickly we would get calls to look at septic systems that were now having problems. This quickly led us to conclude that there



Onsite technician Randy Storey and owner Glen Gonsorowski stand atop a new mound system.

A Helping Hand

Florian & Sons Excavating charges a fair price for a quality product. Owner Glen Gonsorowski also likes to find ways to empower owners to handle their own operation and maintenance needs, after he has taught them how to do the job right.

That trait came to the fore when he was called back to investigate problems with a system at an animal shelter. About 10 years ago he installed a large mound system that serves the human and some animal waste from the facility.

Floor drains delivered all sorts of things to the system. Employees, not knowing any better, failed to separate and direct chunks of dog chew toys, pull ropes, blankets, dog feces and hair to the trash and landfill disposal. Pretreatment was not getting done. Effluent filters that were not in wide use 10 years ago will likely be included in his proposed alterations.

Although he has not yet finalized the design of a long-term solution on paper, Gonsorowski has keyed in on ways to help the nonprofit shelter responsibly cut its operating costs. “Yes, I could provide and charge for monthly management services,” he says. “I can also train their personnel to do maintenance and management so they can avoid an expenditure.”

His approach to the project may be unconventional, but it is consistent with his business philosophy. For Gonsorowski, owner education, functional design, and a commitment to long-term performance and empowerment are priorities not likely to change.

was a connection between increased water use and system failure.” At the time, system sizing was not regulated, and installers were free to size systems according to their best judgment.

Under that method, installers could scale down tank capacity or absorption area square footage to get a price advantage. Consumers who thought they were getting a price break soon found out they had bought far less system than they needed.

“I can't count the number of people who bought a system on price alone and then called us to enlarge it after they connected to public water,” Gonsorowski says. “We were glad to see statewide regulations come into play. With every home required to install the same-capacity tank and absorption area size based on bedrooms, it put installers on an even playing field.”

“We were glad to see statewide regulations come into play. With every home required to install the same-capacity tank and absorption area size based on bedrooms, it put installers on an even playing field.”

Glen Gonsorowski

Sewer school

Another thing that changed was the training and education available to installers. Growing up, Gonsorowski watched his father learn by observing, then doing, mostly on his own.

He is quick to credit the Minnesota onsite program with many positive concepts and influences that crossed the border into North Dakota.

“Over the years, our company sent many employees to Minnesota for onsite training,” he says. “They present great training sessions, and the



LEFT: Onsite technicians Cameron Deleski and Randy Storey attach the risers from Polylok. RIGHT: Storey and lead onsite technician Deleski rake the rock over the pipes in a mound system.

concepts they brought to the industry are beneficial regardless where they are put to use.”

Gonsorowski found he could rely on the Minnesota “sewer school,” as he calls it, for focused training on that state’s approach to onsite systems and technologies. “North Dakota does not have a similar educational resource,” he notes.

“Over the years, our company has sent many employees to Minnesota for onsite training. They present great training sessions, and the concepts they brought to the industry are beneficial regardless where they are put to use.”

Glen Gonsorowski

Advances he sees include site evaluations using soil profiles and percolation tests, and the roles of the regulator as site evaluator, approver of design proposals, permit issuing agent and construction inspector. “All of these things bring consistency and keep installers on an equal footing,” he says. “In the long run, the consumer is the winner.”

He also sees a downside: The absence of regulatory consistency across state lines can be challenging and limiting. Gonsorowski has watched the states move toward program consistency within their borders, while the states themselves moved farther apart in how they licensed businesses and how they treated credentialed practitioners.

What’s on the menu?

Each year, Minnesota requires installers to perform a minimum number of installations to keep their installer credential. At the same time, Minnesota does not recognize the work done by a Minnesota-licensed installer in any other state. As a result, Gonsorowski’s company was not able to maintain its Minnesota license. North Dakota has no similar restrictions.

As a consequence, Gonsorowski developed two service menus, one for each state.

To provide accurate information to potential customers, each caller must answer two questions: “Is the work in North Dakota or in Minnesota?” and “What is the nature of the work?” He does excavation in both states, but he installs and repairs onsite systems only in North Dakota.

State onsite regulations also influence the demand for services. Minnesota allows advanced treatment units and requires operation and maintenance service agreements for them. North Dakota does not allow them, and so there is no service demand there. In both states, there is demand for periodic septic tank pumping, but that is a service he no longer offers.

Gonsorowski avoids real estate transfer inspections out of concern over liability: He has not found an inspection protocol he feels he can trust. But diagnosing and restoring problem systems is well within his comfort zone, and he finds ample demand. Because of the license situation, he only takes these jobs in North Dakota.

Educating the market

“Each business finds and then works in a comfort zone that must fit with local customer demands and government regulation,” says Gonsorowski, who has found a way to make the best of the challenge of his location.

A big part of his work in the onsite sector is customer education. “The average person has no idea what happens when the flush handle is pushed,” he says. “As long as the bowl empties, all is well. This lack of understanding is a problem for every professional in this business.” He tackles it one customer at a time.

Cameron Deleski, lead onsite system technician, works with landowners, helping them understand the “why” behind the regulations and the “how” behind each component’s operation.

Using the county health department’s site assessment and mandatory sizing criteria, and taking cues from informed and involved customers,



Randy Storey and owner Glen Gonsorowski monitor an excavation for a septic tank.

Deleski prepares a design for Gonsorowski to review. When both are satisfied, the project moves forward for permitting.

When installation time is at hand, Randy Storey and Bruce Otteson, onsite technicians, work with Deleski in the field. "I have confidence in my crew members, their skills, capabilities and their training," Gonsorowski says. "Giving each person responsibilities helps them grow individually and as a team."

The company's primary earth-moving equipment for onsite work includes a John Deere 120D tracked excavator and a Bobcat T300 tracked skid-steer. A construction low-boy trailer moves those machines around. Because he buys fine and coarse aggregate delivered to the job site, Gonsorowski does not own a dump truck. "With the nearest aggregate suppliers

about 50 miles distant, I find it more economical to buy the materials delivered," he says. "I also avoid the cost of maintaining a stockpile."

Life changes

The business mix has steadily changed, to the point where Florian & Sons has evolved from a complete focus on septic system installation to a much more diverse business.

"This in no way lessens the intensity of our onsite focus, the quality of our work or the long-term customer relationships that we build in this arena," Gonsorowski says. The change is largely due to competition from small operators. North Dakota's general business licensing requirements have no subject-specific training or licensure, making it easier for competitors to hang out an "installer" shingle.

Onsite systems will always be part of the company's service menu and most likely, the offerings will change on a state-by-state basis. As growth moves beyond the reach of sewer lines, and as regulations change, so will the opportunities for Florian & Sons.

The most consistent aspect of the business has been its leaders' ability to recognize and profit from change. Reflecting on his dad's outlook, Gonsorowski sees opportunity in every change that lies ahead, regardless of the state to which the opportunity leads him. □

MORE INFO:

Bobcat
866/823-7898
www.bobcat.com

John Deere
800/503-3373
www.deere.com

SALCOR UV DISINFECTION

The Finishing Touch

- Gravity Flow to 6 GPM - Onsite Systems
- Quick Install In Ground or Pump Tank
- Environmentally Superior - No Harmful Byproducts/Enabling Water Reuse
- Energy Efficient - Uses Less Than 30 Watts
- Teflon® Film Resists Fouling - Continual Performance
- Electronic Performance Monitoring
- Unit and UV Lamp Two Year Warranty
- NSF and Other Third Party Tests Confirm Superior Bacteria and Virus "Kill"
- UL and cUL Certified, Standard 979
- Multiple Units Economically Treat up to 100,000 Gal/Day
- Minimum (Annual) Easy Maintenance
- NEMA 6P (Passed 30 Day UL Submergence Test)

Residential, Commercial & Municipal UV Leader Since 1978

Salcor Inc.

PO Box 1090, Fallbrook, CA 92088

(760) 731-0745

Fax: (760) 731-2405

Made in the USA

"Everyones' Friend," Homeowners, Environmental/Public Health Specialists, Engineers, Designers, Installers, O&M Providers, Treatment Plant Manufacturers



**Model
3 G**



Learning From the Champions

You can learn a great deal about how to win in business from the champions in the world of college sports. The NCAA Hall of Champions in Indianapolis shares the experience of top college athletes in some 23 events.

Located just four blocks from the Convention Center at 700 W. Washington St., the Hall of Champions has 25,000 square feet of exhibits, including a display of a 1930s-era gymnasium.

In theater video presentations, young champions share their experiences and thoughts on life as student athletes. A March Madness theater provides an intimate look inside the men's and women's NCAA basketball tournaments.

The Hall also gives you firsthand athletic experiences, with activities like a downhill skiing simulator and video games in which you throw real balls at moving targets. Visit www.ncaahallofchampions.com.

Shopping

The Fashion Mall at Keystone is an upscale shopping center offering 95 specialty shops and restaurants. Just 20 minutes from the Convention Center at 8702 Keystone Crossing, its high-end anchors including Saks Fifth Avenue and Nordstrom. With a host of luxury and specialty retailers, it attracts discriminating shoppers from all over the Midwest. Visit www.simon.com/mall/default.aspx?ID=166.

Fine dining

Osteria Pronto takes you straight to the heart of Italy. Just a block from the Convention Center at 10 S. West St., this bistro-style restaurant serves dishes inspired by authentic regional Italian cuisine in an inviting



environment with fresh fare made from fine locally sourced ingredients. Located inside the new JW Marriott hotel, it offers menus full of Mediterranean flavors at lunch or dinner, along with a carefully chosen wine list. Dinner entree prices range from \$11 to \$34. Visit www.osteriapronto.com.

Casual dining

Since 1986, Bazbeaux Pizza has been an Indianapolis favorite. One of three locations is downtown at 333 Massachusetts Ave., two minutes from the Convention Center. Bazbeaux is a multiyear winner of the *Indianapolis Monthly* magazine People's Choice Award for pizza. It offers innovative pizzas with fresh ingredients and a choice of 52 toppings.

All pizzas are made with a blend of provolone, mozzarella and Pecorino romano cheeses and homemade dough and tomato sauce. You can choose wheat or white crust, thin or thick. Toppings, besides the basics, include Andouille sausage, Mexican sausage, barbecue or Cajun chicken, albacore tuna, crab, shrimp, snow pea pods, roasted red peppers, sun-dried tomatoes, and black bean dip. Salads and sandwiches are also available. Visit www.bazbeaux.com.

Arts/Entertainment

To give the kids a thrill during Expo days, it's worth a 10-minute drive to the Children's Museum of Indianapolis, at 3000 N. Meridian St. Billed as the world's largest children's museum, this five-story playground is built for kids of all ages, with nearly 500,000 square feet, more than 120,000 artifacts, 12 permanent exhibits, and many temporary exhibits. Some 1.3 million people visited last year.

Highlights include roaring dinosaurs, science experiments, an antique carousel, and the five-story Fireworks of Glass. The museum aims to create learning experiences with engaging exhibits and interpretive activities. Visit www.childrensmuseum.org. □



ALDERON
Industries

Leading Edge Control Products

Floats & Sensors, Alarms, Power Posts, Controls, Custom Controls



Phone: 218-483-3034 / www.alderonind.com



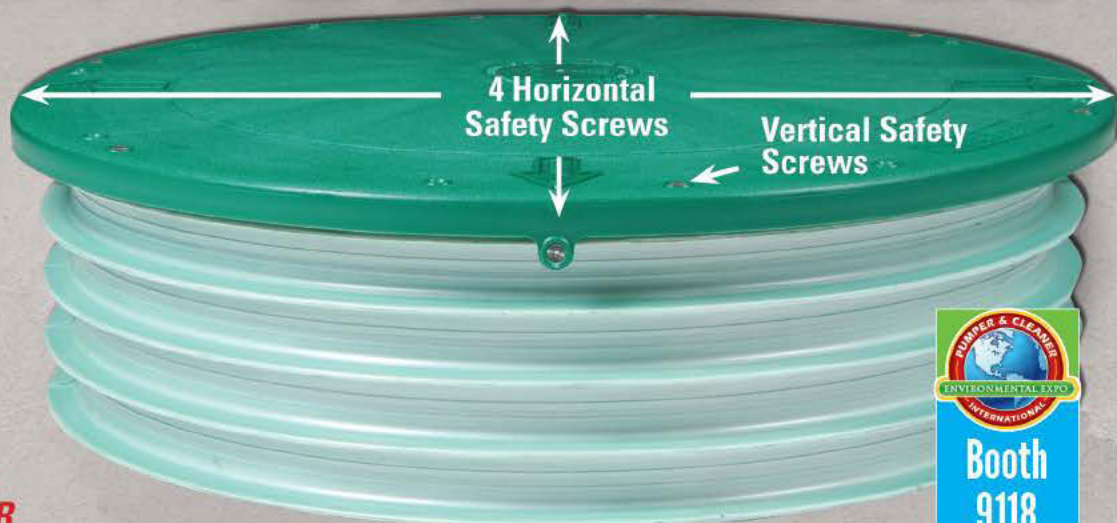
20" & 24" HEAVY DUTY MULTI-PURPOSE FLAT RISER LID

Fits most commercially
 available:

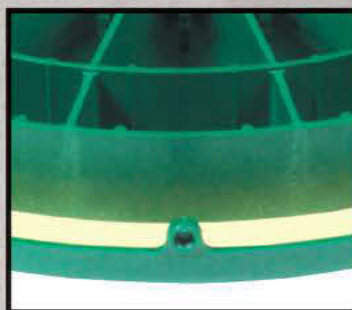
- Risers
- IPEX PVC Ribbed Pipe
- Corrugated Pipe

**FREE FREIGHT
 ON FULL CARTONS!**

**LID MAY BE USED WITH OR
 WITHOUT CONCRETE CENTER**



Secured by 6 Vertical and 4 Horizontal Safety Screws. Screws Included.



Foamed-in Permanent Polyurethane Gasket.



Holds up to 70 lbs of Concrete for Added Safety.



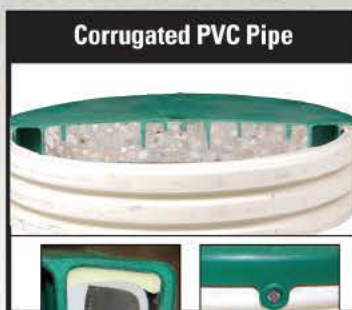
Water-TITE™ Joint Vertical and Horizontal Safety Screws



Corrugated HDPE Pipe



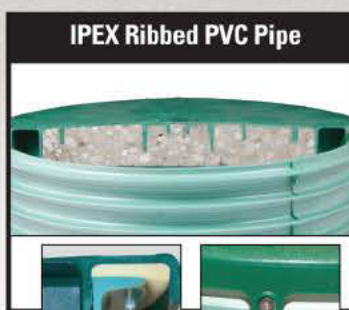
Water-TITE™ Joint Horizontal Safety Screws



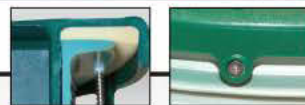
Corrugated PVC Pipe



Water-TITE™ Joint Horizontal Safety Screws



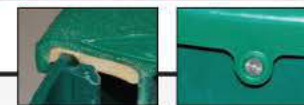
IPEX Ribbed PVC Pipe



Water-TITE™ Joint Horizontal Safety Screws



Plastic Riser



Water-TITE™ Joint Horizontal Safety Screws

Jim Anderson and Dave Gustafson are connected with the University of Minnesota onsite wastewater treatment education program. Dave is extension onsite sewage treatment educator. Jim is former director of the university's Water Resources Center and is now an emeritus professor, as well as education program coordinator for the National Association of Wastewater Transporters. Readers are welcome to submit questions or article suggestions to Jim and Dave. Write to ander045@umn.edu.

Keep It Dry

A key principle of soil treatment unit installation is to avoid working the soil when it is too wet, avoid saturated soils, and consider runoff on the property

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

As we travel and talk about good installation principles, we often hear questions about why installers need to know their soils. Last month we said it's important for installers to know soils so they can determine whether there is proper separation between the infiltrative surface of the system and any limiting soil condition.

It is also important to recognize soil textures and to understand the relationship between soil type or classification in your state's rules and the size of treatment unit needed. Let's look at the general principles a little more closely and see how a better understanding of soil and site conditions can help avoid problems during installation.

One common mistake, particularly in gravity installations is to install the treatment part of the system at the base or toe of a slope. This is the point on a natural landscape where the slope begins to flatten out and surface runoff will slow down and begin to infiltrate.

The plastic limit

The first general principle is to Keep It Dry (KID). You need to consider at least three parts to this principle when locating and installing the soil treatment unit. From an equipment standpoint, keeping it dry means not excavating or working the soil when it is too wet. If the soil moisture content is above the plastic limit, equipment can cause smearing and compaction.

Compaction is the compression of soil particles, reducing the size of the soil pore spaces. Smearing spreads the soil particles by sliding pressure. Either way, the end result is the reduction of soil infiltration capacity. So, whether you are installing belowground gravity trenches or at-grade or aboveground systems, compaction at the soil surface may doom your system to failure, even if you install all the other system components correctly.

The moisture content of the soil should be checked at the depth of excavation if belowground trenches are to be installed, or a depth of 8 inches if installing an at-grade or aboveground system. The method for determining the plastic limit is specified by the American Society for Testing



The drainfield site should be protected from traffic that can cause soil compaction.

and Materials, Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils, ASTM D4318 (2005).

Doing it right

To run the test, take a handful of soil and see if you can mold and roll it into a wire that is 1/8 inch in diameter. If so, the moisture content is above the plastic limit and needs to dry out before you proceed with the installation. If the soil crumbles and falls apart when you try to roll the sample into a wire, the moisture content is below the plastic limit and you can go to work.

The higher the clay content of the soil, the more likely the soil retains moisture. The higher the moisture content, the more the soil loses strength, and the more compaction and smearing will occur. So when applying this test, if there is any question, err on the side of waiting for the soil to dry.

Recognize that it is not only your equipment that can cause compaction and smearing. Any other activity associated with house construction can affect your site. That is why you should protect the location of the soil treatment area before, during and after your installation.



Horses and other livestock should be kept off the drainfield. Here, the distribution box is protected by a fence.

Separation distance

The second way the KID principle comes into play is the separation distance to seasonal or permanent water tables or saturated soil conditions. The closer the bottom of the excavation comes to a zone of soil saturation, the more likely the soil will be too wet to excavate.

In addition, the separation distance is specified to ensure proper treatment of the wastewater. In our state (Minnesota), that separation distance is 3 feet. We have seen different states' codes requiring from 2 to 10 feet of separation, so you need to know what the limit is for your state.

Typically, we use soil color as a way to determine the presence of seasonal saturation. So even if you or someone else digs a hole and it remains dry, that doesn't mean the soil will still be dry during wetter periods. As an installer, you should recognize the color indicators for wet soil conditions in your area.

Periodically in this column, we cover those criteria and characteristics. One side note: Based on our visits to more arid locations in New Mexico and Arizona, color is as important there as an indicator as in our more humid location.

Dealing with surface water

The third part of the KID principle is the need to deal with surface water additions to the system location. Since we expect the soil treatment area to accept several hundred gallons of water a day, the addition of any extra water, regardless of source, can affect system performance.

Where the system is located on the natural landscape is important. One common mistake, particularly in gravity installations, is to install the treatment part of the system at the base or toe of a slope. This is the point on a natural landscape where the slope begins to flatten out and surface runoff will slow down and begin to infiltrate.



One key to good installations - and generally a code requirement - is to maintain proper separation distance between the system and the water table.

This is bad enough if the infiltration occurs over the soil treatment area, but it is even worse if the septic tank is also located in this area and all connections are not absolutely watertight. If too much surface water is delivered to

the soil treatment area, it will become overloaded, resulting in system failure.

Concave sloping sites are areas where both surface water flow and sub-surface drainage can come together, overloading the system. These areas, as well as swales, depressions, or other landscape areas that concentrate sub-surface flows, need to be avoided.

Beyond the boundaries

Another thing to be aware of is that the house, outbuildings, driveways and other structures are impermeable surfaces that can contribute water to the system. You may need to work with the homeowner to redirect some of this flow, or install a surface diversion.

Recognizing this as a potential problem may require you to look beyond the boundaries of the lot you are working on. Look for potential for lots or structures located upslope to add water. We see this issue not only in our glaciated Midwest landscapes, but also in more mountainous or hilly areas to the east and the west.

Next month we will visit more of the soil treatment unit installation principles. □

FREE
Subscription


subscribe online - onsiteinstaller.com



Taking the Waste Out of Wastewater


Your Advanced-Treatment Solution for Today's Wastewater Challenges


- Affordable Class I treatment and disposal in the same footprint
- Little or no energy or maintenance
- Independent Third-Party Testing confirms Advanced Secondary Treatment compliant with NSF Standard 40
- 99.9% Fecal Coliform Reduction
- Reduced-size footprint is ideal for tricky sites
- Made in the USA from Recycled Materials
- Time-Proven for Over 25 Years



Innovative Products and Solutions Since 1970







1-800-444-1359

eljen.com

VISIT US AT BOOTH 10031

Maryland Governor to Reintroduce Septic System Ban

By *Scottie Dayton and Doug Day*

Maryland Governor Martin O'Mally announced in August that he would reintroduce a ban on septic systems in new, large developments. He first proposed the ban in early 2011, but it drew opposition from even his own Democratic party and failed.

In making the announcement, O'Mally said the new proposal would focus more narrowly on "McMansion developments" with 200 to 300 homes on individual septic systems. His proposal came as he was also pushing for more state control of local development planning, including state funding of infrastructure for developments in only those areas approved by his office.

One land developer observed that the two proposals would sewer extensions to areas not approved by the governor while also banning septic systems, making it impossible to develop the land.

Texas

Effective September 2011, Grayson County homeowners with aerobic onsite systems must have a maintenance contract with a licensed service provider or complete a course to inspect and maintain the systems themselves.

In Parker County, commissioners overruled recommendations by the County Health Department and adopted less stringent state standards for monitoring aerobic systems. The department had proposed annual maintenance contracts with licensed contractors and quarterly inspections. The changes also allow the 7,500 homeowners to opt out of the mandatory six hours of training to do the inspections themselves. The Texas Commission on Environmental Quality must approve the changes.

Rhode Island

An attorney sued the town of Portsmouth and Wastewater Management Commission members for selecting properties for onsite inspections based on their likelihood of passing. Homeowners must pay for the inspections. The town passed the Wastewater Management District ordinance requiring onsite inspections, but commissioners selected only new homes or those with systems less than 10 years old.

The suit relates to the Department of Environmental Management Notice of Violation against the town, filed in 2010 to prevent the discharge

of sewage from stormwater pipes. The agency fined the town more than \$186,000. The attorney contends that the inspection ordinance is a misguided attempt to concoct a defense to the notice.

New York

The Long Island Pine Barrens Society filed a lawsuit to reverse a bill that allows Suffolk County to take 37.5 percent of \$157 million from its Drinking Water Protection Program to help balance the county's \$150 million budget gap. The money would come from a budget line slated for upgrading onsite systems near impaired waters and stabilizing the sewer tax rate. In 2007, county residents voted to approve a quarter-penny sales tax to support the drinking water program.

North Carolina

A state appeals court upheld a \$28,000 award to a couple over a bogus septic tank permit issued by a government health inspector. Authorities say the inspector falsified records to issue permits and has pleaded guilty to bribery. The state must pay the couple for the cost of another lot and the pumping system they bought to service the original lot.

Colorado

A program developed by the Tri-County Health Department requires residents of Adams, Arapahoe, and Douglas Counties to obtain an onsite system Use Permit before selling their property or modifying their home. The program will locate unrecorded systems, identify those in failure, and establish uniform inspection requirements for licensed inspectors.

Washington

Clark County commissioners, in their role as the Board of Health, considered two proposals on onsite system operation and maintenance fees. One would eliminate the county inspection and tipping fees and impose a \$21 flat fee on property taxes of the 34,000 residents with onsite systems.

The other would increase the county's tipping fee from 6 to 11 cents per gallon pumped and increase the reporting fee from \$20 to \$28. Health department calculations show the flat fee would increase revenue by \$194,458, of which \$9,791 would be used for the billing service. The

Correction

The following item was attributed to an incorrect state in last month's "Rules and Regs" column. The item concerns Rhode Island.

Amended legislation extends the 2013 deadline for replacing cesspools within 200 feet of water to Jan. 1, 2014. It keeps the schedule for inspections and replacement of failed systems but allows residents in communities planning to install sewers by 2020 to wait until then to replace their cesspools. If communities fail to arrange sewer financing by 2015, property owners would have to replace cesspools by June of that year. The legislation also requires cesspools on lots with available sewer connections to be replaced by 2014. Warwick County passed an ordinance allowing cesspools to operate on sewer lots until after the properties are sold.

NEW Seal-R Ring Sizes: 12", 15" & 36"

RISER: Dual-wall plastic culvert pipe.

Inner safety lid.

**Seal it Tight!
Seal it Easy!
Seal it Fast!**

- Easy 10 minute installation!
- Secure fit for all systems!
- Made & sold by septic installers!
- Prevent ground water infiltration and save money at the same time!

1 Apply foam sealant to tank.

2 Place ring over opening and apply foam.

3 Place plastic maintenance pipe on ring.

4 Install lid.

Are you tired of using risers that are too tall or too short for the job you are completing? Plastic riser pipe will give an exact height each time. Try our system and you will never have to carry concrete pipe and lids again. Save time by not having to assemble multiple sections.

Seal-R™ Lids Available in 12", 15", 18", 24", 30", 36"

Seal-R™ Rings Available in 12", 15", 18", 24", 30", 36"

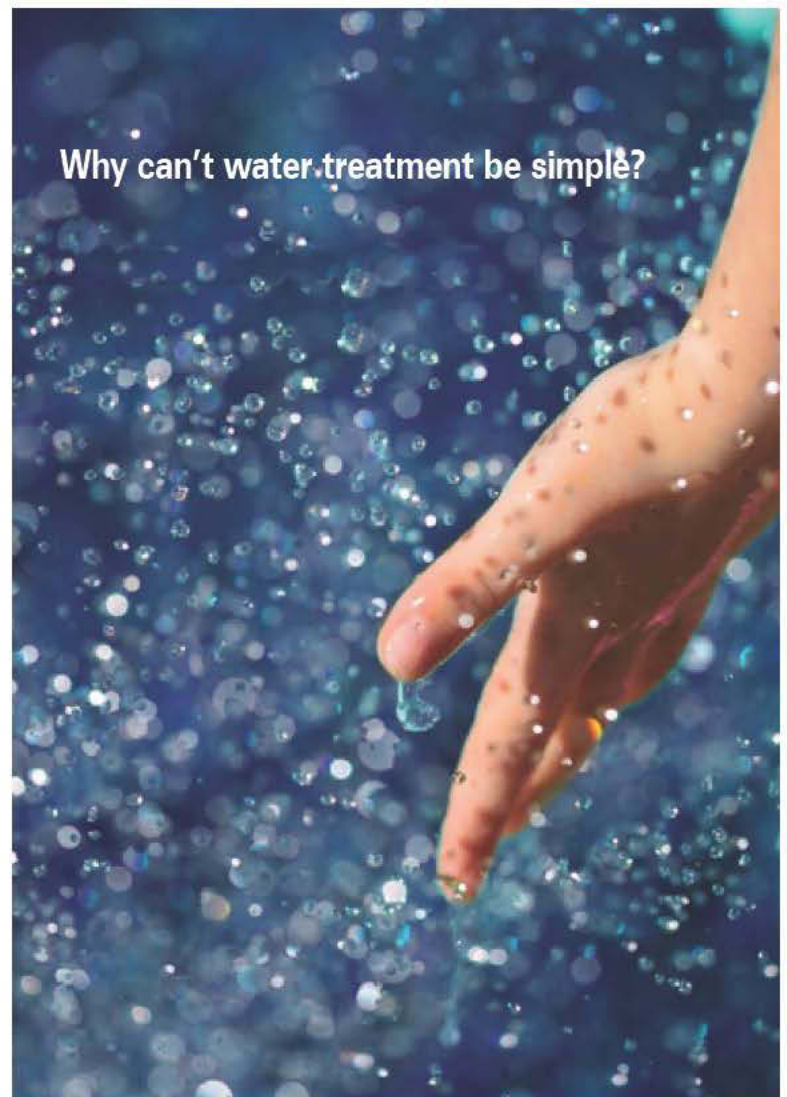
Inner Safety Lids Available in 18", 24"

Seal-R™ Lids can be personalized

For more information, call us today!

BrenLin Company, Inc
Manufacturers of Seal-R™ Products
Herman, MN
888-606-1998
Fax: 320-677-3001 • E-mail: brenlin@frontiernet.net
www.seal-r.com

Booth 9048



proposal to increase the inspection and tipping fees would bring in an additional \$184,667.

California

The state Water Resources Control Board scheduled a public comment period for new onsite rules in response to AB 885, passed by the legislature in 2000. The updated proposal was released in September, and adoption hearings were set for spring 2012.

Rather than a statewide standard, the policy establishes "a statewide, risk-based, tiered approach" according to the Public Comment Draft of the policy posted on the agency website at www.swrcb.ca.gov/water_issues/programs/owts/index.shtml.

"The establishment of a single set of criteria for OWTS would either be too restrictive so as to protect for the most sensitive case, or would have broad allowances that would not be protective enough under some circumstances," the document states. "To accommodate this extreme variance, local agencies may submit management programs for approval, and upon its approval then manage the installation of new and replacement OWTS."

Missouri

The Department of Natural Resources has issued a \$1 million grant to the Ozarks Water Watch to help people replace failing septic systems. The organization will provide a 50-50 combination of grant and no interest loan money to cover 50 percent of the cost of replacement, up to \$10,000. Low-income applicants can get up to 90 percent of the needed funds. Visit www.ozarkswaterwatch.org. □

With Bio-Microbics, it is.

Innovation makes complex problems easy to solve. Our pre-engineered, modular wastewater treatment systems are a breeze to install and maintain. Whether retrofit or new construction, they are working right now. Unnoticed. And that's just how we like it.

Learn more at www.biomicrobics.com

800-753-FAST {3278} | 913-422-0707



Better Water. Better World.®



Ask About Our
S.O.S.-SAVE OUR SEPTIC®
Warranty Program!

© 2011 Bio-Microbics, Inc. • sales@biomicrobics.com

Drainfield Media 101

Today's installers have multiple choices in media alternatives to traditional aggregate. Choices are available to suit the needs of almost any site and type of treatment system.

By Dennis F. Hallahan, M.S., P.E.

Drainfield media products are crucial components of onsite wastewater treatment systems. Historically, we have gone from the days of simple outhouses, when nothing more was needed, to strict regulations governing the size and design of most septic systems. As part of that evolution, a host of media options have emerged, giving installers effective and easy-to-use choices with which to complete effective, long-lasting drainfields on nearly any site.

Drainfield media came into play after indoor plumbing added to the quantity of wastewater that needed to be managed. First, open-joint piping was introduced. Then aggregate was placed around the open joints, and the drainfield was born. Although it was already widely used, aggregate was first listed in the *Manual of Septic Tank Practice*, published in the 1950s by the U.S. Department of Health, Education, and Welfare as part of the first national standard.

Evolving options

Today, in some regions, aggregate is still the conventional choice for septic system drainfields, and many installers continue to use it. But just as TV sets evolved from black-and-white, to color, to flat screens with high definition, newer products have arrived for drainfields.

Numerous drainfield products are available – in fact there are too many to describe fully in one article. Aggregate still serves its purpose, but in many cases it is replaced by newer technologies that work better and cost less.

Aggregate has a large carbon footprint and can have larger environmental impacts just in the effort it takes to obtain it and prepare it. Its production and use involves mining, blasting, crushing, hauling, washing and dust control. It is also labor-intensive and can cause extensive site disturbance during installation. Advances in technology and science have led to alternatives that better protect the environment and the homeowner's investment overall.

Conventional drainfields

In a conventional system, effluent flows by gravity or is pumped to the drainfield, typically constructed with 4-inch perforated PVC pipe installed level or with a very slight slope over 6 inches of aggregate. Aggregate is then placed along the sides of the pipe and 2 inches above it. In the past, straw or building paper was laid over the pipe, but today, filter fabric is most commonly used to prevent silting. The system is then covered with soil. According to the U.S. EPA *Onsite Wastewater Treatment Systems Manual* (2002),



Drip systems are installed shallow and are ideal for sites with difficult, slow draining soils. (Photo courtesy of American Manufacturing Company)

aggregate functions include:

- Storing effluent until it can be released
- Supporting the sides of the trenches, the soil above, and the drain piping
- Distributing effluent along the trench

Aggregate alternatives

The alternative media used in aggregate-free trench or bed systems function similarly to aggregate and offer benefits to installers and the environment. Advantages include:

- Lightweight and easy handling
- Lower labor and transportation cost
- No compaction or other structural damage to soils and no property disruption from heavy machinery
- Possible drainfield size reduction
- No clogging from aggregate dust and fines
- Can be pressurized for enhanced system effectiveness
- Easy operation and maintenance, including addition of observation ports for system monitoring

Alternative drainfield media include technologies such as engineered aggregate, concrete and plastic chambers, fabric-covered pipe, and corrugated pipe. Other options under development include crushed glass and rubber



Conventional aggregate systems are still in use after almost a century and serve well in many applications. (Photos courtesy of Infiltrator Systems)

tire fragments. Even within the realm of options already available, product enhancements for specialized applications and extremely sensitive environments are in development and will give installers future options for nearly every possible type of installation.

Engineered aggregate

An environmentally friendly replacement to traditional aggregate and pipe drainfields, engineered geosynthetic aggregate systems feature a modular design. These systems, available for more than 20 years, improve drainfield performance by eliminating the fines found in crushed aggregate and by reducing soil compaction and embedment.

Engineered aggregate is normally offered in preassembled units, which include perforated pipe surrounded by engineered aggregate and held in place with durable, high-strength netting. Most are available with filter fabric preassembled within the unit. These units, or bundles, are manufactured in multiple sizes, in bundles from 6 to 18 inches in diameter and typically in 10-foot lengths, easily coupled together to provide the specified trench length.

Plastic chambers

Plastic chambers are open-bottom arches of various sizes and shapes with louvers for sidewall infiltration. These chambers form voids through

Today, in some regions, aggregate is still the conventional choice for septic system drainfields, and many installers continue to use it. But just as TV sets evolved from black-and-white, to color, to flat screens with high definition, newer products have arrived for drainfields.

which effluent flows, replace the voids within the stone aggregate and provide a large, open surface, free of fines, to maximize effluent infiltration to the soil.

Chambers are installed in level trench and bed systems. Chamber sections are designed to interlock, forming a complete drainfield trench that includes end plates. Some chambers are manufactured so that they permit curving the system to fit unusual terrain.

Plastic chambers can reduce installation time by up to 50 percent compared to an aggregate system. All states and provinces have approved



LEFT: An engineered aggregate system greatly simplifies installation. RIGHT: Chamber installations have become extremely common alternatives to conventional aggregate in many regions.

chamber systems, and most allow reductions in drainfield size where this technology is used instead of aggregate.

A typical chamber is 16 to 34 inches wide, 4 to 5 feet long, and 8 to 16 inches high. Special end sections connect with feed piping. A number of design options are available, depending on the depth, slope, and size of the system. For example, narrower chambers provide more sidewall absorption, and low-profile models are used in shallow drainfields or mounds where high water tables are present.

Chambers are installed and then covered with soil. They receive septic tank effluent and allow it to infiltrate through the open bottom and the side louvers into the soil, where final treatment and dispersal occurs. Chambers are lightweight and easy to install, eliminating the labor, equipment, and hauling costs that go with aggregate.

Most chambers stack, easing transport and storage. A pressurized dosing system consisting of a small pipe with orifices can be suspended within the chamber or placed on the bottoms of the trenches. In these systems, a holding tank collects the effluent, which is pumped into the piping to achieve even distribution within the chambers.

Fabric-wrapped pipe and bundled pipe

With benefits similar to those of most aggregate alternatives, fabric-wrapped and bundled pipe systems have the additional advantage of easy installation, using light equipment, in areas with steep slopes, or in hand-dug trenches where aggregate systems would not be possible.

Fabric-wrapped pipe, also known as sock pipe, or more officially by the EPA as geotextile-wrapped pipe, is composed of corrugated HDPE plastic piping covered with filter fabric. The systems can use single large pipes 8 to 12 inches in diameter, or groups of bundled pipe. Bundled pipe generally uses nine to 13 4-inch pipes.

Pipe is placed in 12- to 24-inch-deep trenches and backfilled with soil. Aggregate-free pipe systems are widely available. Observation ports can be added to allow system inspection.

Drip systems

A subsurface drip distribution system is a network of small-diameter



MAXAIR500

MAXAIR500 SUBMERSIBLE AERATOR

2-YEAR WARRANTY

\$425

- Motor is fully enclosed, continuous duty
- Stainless steel motor enclosure & legs
- 15-foot power cord

Replacement for Multi-Flo Aerator*

*All original equipment manufacturer's names, drawings, and part numbers are used for identification purposes only, and we are in no way implying that any of our products are original equipment parts.



AERATOR

STA60 - STA80 - STA100
Superior replacement for
all 60-80-100 model
pumps on the market

Available with hose bib for low
pressure alarm connection.

STA60...\$220 STA80...\$250 STA100...\$340

2-YEAR WARRANTY



R-5760 Blower
57 cfm....\$375

REDESIGNED Flagg-Air™ Model 340HP

REPUTATION AS
THE LEADER IN
AERATION SINCE 1992

- Low 1750 rpm
- High torque
- Enclosed motor w/ handle
- Stainless steel shaft
- Improved high impact plastic parts
- 2-year warranty
- Fits in place of most original manufacturers' units
- Replacement parts available

Improved
Design!

\$350

The Flagg-Air 340HP does not carry the NSF seal. Check local and state regulations for approval in your area.



P101-FA-2
24-Hour
Timer
w/mini breaker &
warning light
increment setting
15 minutes

New
Item!



**0523
1023**
Rotary Vane
Compressor

BULLET™ High Head Filtered Effluent Pumps



BP12...12gpm
\$235
BP20...20gpm
\$255



Regenair®
R3105-12
Blower

**Hydromatic,
Zoeller, ABS,
Liberty &
Myers
Pumps**



SECOH Diaphragm
EL 60
EL 80
EL 100
EL 120



MEDO Piston
LA- 60
LA-80B
LA-100
LA-120

tubing installed shallow (6 to 24 inches deep). While the other aggregate alternatives mentioned are simple trench technologies, the drip system is complex in comparison.

The drip system is comprised of valves, tubes, emitters, filters, electronics, timers, pumps, vacuum breakers, and an advanced treatment device. Most drip systems are installed after a treatment system yielding effluent treated to a higher level than septic tank effluent. More advanced treatment is required to minimize clogging of the emitters in the field. The complexity costs more, but the benefits can be appealing in some areas and applications.

Drip systems are ideal for difficult soils where simple trench technologies would require large, expensive mound systems. The drip system can be less intrusive on the site than a mound, and the system can be installed around natural features.

The subsurface drip distribution system uses treated septic tank effluent, pumped from a lift tank through a series of filters to remove remaining suspended solids. Then, the effluent is pumped through tubes where the emitters distribute it to the upper soil horizon. The system is back-flushed periodically to remove solids.

The future

The future will bring refinement to existing products and the introduction of new technologies. There will always be a need for products that can meet the simple objectives of conventional aggregate. New media that can deliver effluent to the soil efficiently and offer added or new advantages will challenge manufacturers. The results will be more benefit to the designer, contractor and homeowner. □



T&T Tools, Inc.
800.521.6893



Hooks...

- Heat treated for long life
- Manhole Cover Hooks
- Septic Tank Lid Hooks
- Many styles available
- "T" handles for two hands or compact "D" handles

Probes...

- Insulated, Standard and Specialty
- Metal shafts: 3/8 round or hex
- Replaceable hardened tips
- Optional "slide" available to make your probe a mini-slide hammer



Call for a FREE Catalog

Email: sales@tandttools.com

Fax: 800.521.3260



Septic Services, Inc.

toll free 1-800-536-5564
local 636-583-5564

sales@septicsserv.com • www.septicsserv.com fax 636-583-6432



Booth 3125



LARGE PRECAST TANKS TO 40,000 GALLONS

- ♦ Septic, Grease Interceptors, Holding Tanks
- ♦ Available in Sizes 750 to 40,000 Gallon
- ♦ Extra Heavy Duty Tanks—HS20 Loading
- ♦ Bituminous Coating, Fast, Efficient Setting
- ♦ Vacuum Tested, Water Tight Structures
- ♦ Tanks for Bio-Microbics and Nibblers, Sand Filters
- ♦ Nationwide Delivery • Custom Sizes for Any Project



WIESER

CONCRETE PRODUCTS, INC.

1-800-325-8456

Join Us On the Web:
www.wieserconcrete.com



ALARMBOT™

**360°
VISUAL**

The only outdoor high water post alarm system to feature a clear alarm beacon and high-intensity red flashing LEDs for maximum visibility.

- Weatherproof enclosure
- Safe and dependable 12 volt operation
- Universal plug to allow for easy installation of any piggy-back plug
- Factory-sealed to help isolate gases and moisture from entering the system
- Beep tone audible with on/test/silence switch
- Pump and alarm power can be separated
- Mounts on 4" electrical conduit (customer supplied)
- Three-year limited warranty



Booth 330

CSI controls

Toll Free: 1-800-363-5842
www.csicontrols.com

On-Site Controls
**SALES REPS
WANTED**

Call For Details!

The Last Line of Defense for Pressurized Distribution Systems

SIM/TECH FILTER



Can be used in a manifold to handle almost any flow-rate

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

The STF-100 series pressure filter will:

- » Lower total suspended solids (TSS)
- » Protect with low head-loss (.5002 ft)
- » Extend the life of the distribution field
- » Filter to .062", .024", .007", or .004"
- » Pass up to 83.8 gallons per minute @ 1PSI
- » Allow for easy installation and service
- » Protect from improper system maintenance
- » Protect from system abuse
- » Satisfy your customers

Gravity Flow Bristle Filters for residential or commercial systems, septic tanks, onsite systems, or even your pond!

Very effective at filtering tissue, hair, lint, and other solids common to waste water. And flexible enough to fit just about anywhere, most common applications are standard "tees" and square concrete baffles as shown below.



The 7" filter in a 5" square concrete baffle



The 4" filter in a 4" Tee.

Sizes Available:
4" yellow
6" white
7" red
8" blue

Patent# 6,811,692

Polycarbonate Covers

- » 8,000 lb wheel load rating (H10 Rating)
- » The Ultimate in UV protection and appearance
- » Drop in feature for easy alignment
- » Performance is not affected by temperature
- » Can be used with most 24" risers and pipe
- » Factory installed gasket won't fall out
- » Stainless Steel Screws included
- » Available insulated or easy to do so yourself
- » Available with self locking web
- » Low profile to allow for lawn mowers, etc.



Orifice Shields

- » 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



Patent# 6,167,914

Booth 2068

Check Out our other quality solutions!

Risers, Security Nets, Clean-Out Sweeps, etc.

Float Tree Accessories

- » Easy adjustments
- » No tangled wires
- » No float hang-ups
- » No straps to break
- » No entering tank
- » Easy pump repairs
- » Very affordable



Call us or visit our website.

Toll Free **888-999-3290**
www.gag-simtech.com
sales@gag-simtech.com

Thank You.

“Sixty years ago the environment was something we never thought twice about. Today, I'd have to say that's not the case. What we leave behind will last for generations.”

Your professionalism lasts forever.

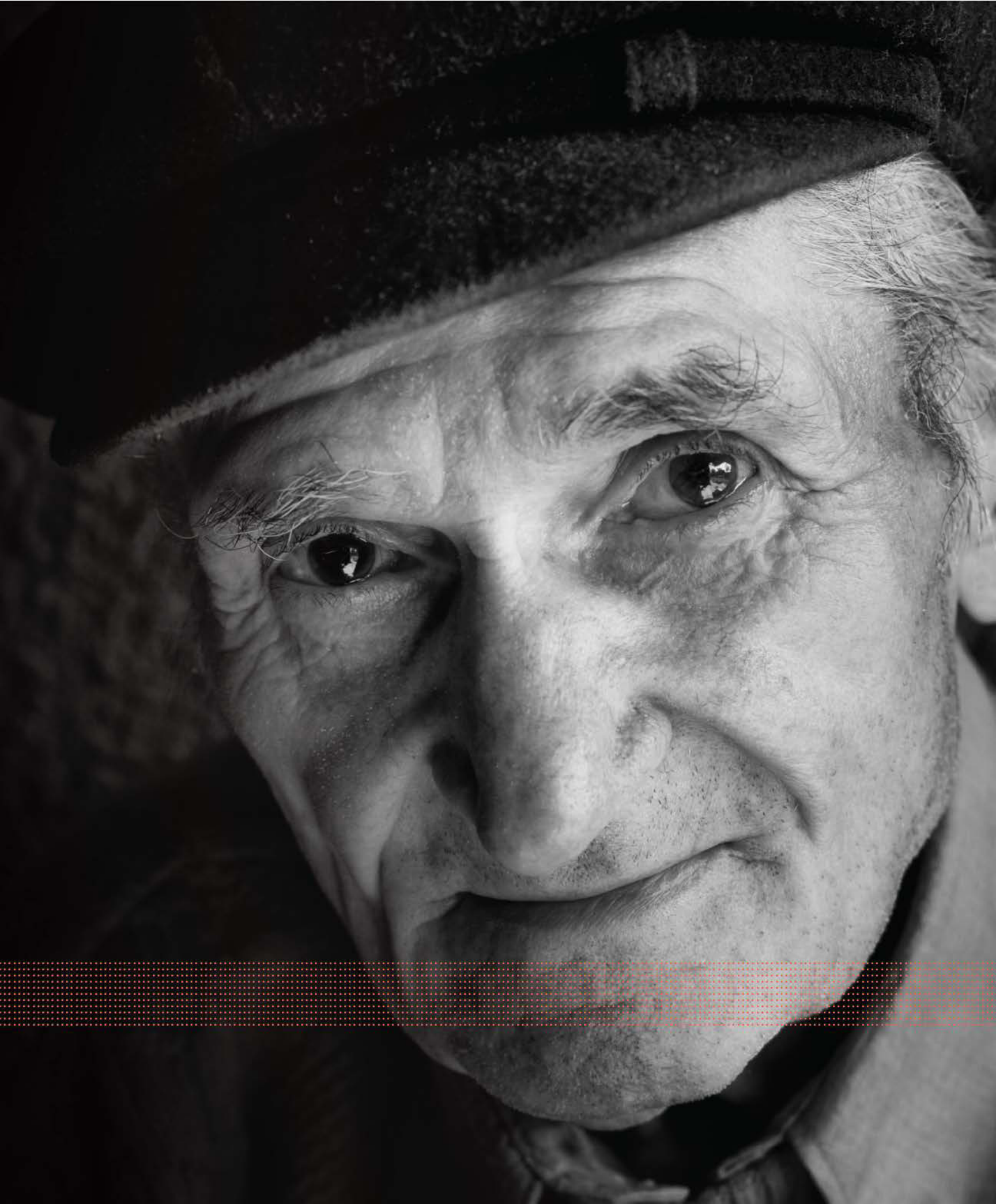
Thank you.



For the True Professionals

February 27th - March 1st • Indiana Convention Center • Indianapolis, Indiana

www.pumpershow.com



Travel on Schedule

A fast-track installation involving high-strength aerobic treatment units allows a freeway travel center to open on time

By **Scottie Dayton**

A privately held company wanted to build a travel plaza at Interstate 65 and Indiana 10 just south of DeMotte, Ind. Plans called for a 10,000-square-foot travel center, convenience store, full-service restaurant, and showers for truck drivers.

Scott Rexroth of Clear Water Environmental Systems in Noblesville, Ind., and Chris Badger, P.E., of Badger Engineering & Associates in Lebanon, Ind., subcontracted to design and install an onsite system to handle high-strength waste for site work contractor Site Masters Construction of Maben, Miss.

“This was a high-profile large commercial development for the county,” says Badger. “The permitting process took time, even though the state Department of Health told us what type of system and absorption bed to install and where to put the drip field.” Badger and Rexroth chose the products.

Permit acquisition, heavy spring rains, a seasonal high water table, coordination with contractors, and plan alterations on site challenged Rexroth and his crew as they faced an aggressive construction schedule. The plaza opened on time last September.



The flow equalization tank with the four FAST treatment tanks behind it. (Photos courtesy of Clear Water Environmental Systems)

SYSTEM PROFILE

Location:	DeMotte, Ind.
Facility served:	Travel plaza
System designer:	Chris Badger, P.E., Badger Engineering & Assoc.
Installer:	Scott Rexroth, Clear Water Environmental Systems
Site conditions:	Sandy to sandy loam, failed percolation test, water table three feet below grade
Type of system:	FAST units from Bio-Microbics
Hydraulic capacity:	10,000 gpd

Site conditions

Soils are sandy loam and fine sand with a loading rate for highly treated effluent of 0.6 gallons per square foot per day. The seasonal high water table is 12 inches below grade. The plaza, on 15 acres, is on a freeway interchange.

System components

Badger sized the system to handle 10,000 gpd at a waste strength of 1,200 mg/l BOD per day. Its major components are:

- 2,000-gallon concrete grease interceptor with traffic-rated lids and cast-iron risers. All tanks made by Oldcastle Precast.
- 6,400-gallon septic tank with two Polylok 10,000 gpd PL-525 effluent filters
- 72-inch-diameter by 216-inch-deep prepackaged fiberglass lift station with duplex Zoeller single-phase 50 gpm sewage pumps
- 15,000-gallon concrete tank with 6,000-gallon settling compartment and 9,000-gallon flow equalization compartment with four Zoeller single-phase 30 gpm effluent pumps



LEFT: Four high-strength FAST treatment units from Bio-Microbics were installed in the 9,000-gallon compartment of the 15,000-gallon tanks. RIGHT: Scott Rexroth of Clear Water Environmental Systems installs one of two Polylok 10,000 gpd PL-525 effluent filters in the outlet riser of the 6,400-gallon septic tank.



- Four 15,000-gallon concrete tanks in parallel with 9,000-gallon compartments for High Strength FAST 9.0 aerobic treatment units from Bio-Microbics and 6,000-gallon dosing compartments with a Zoeller single-phase 30 gpm turbine pump
- Four custom supply-and-return valve boxes with pressure gauges, shut-off valves, check valves, and solenoid valves
- 16,800 feet of Geoflow drip irrigation tubing in four zones
- Four custom control panels from SPI – Septic Products

System operation

Most plumbing is 6-inch Schedule 40 PVC pipe. The wastewater gravity main and discharge from the grease interceptor enter the septic tank, and from there effluent flows into the lift station. On-demand alternating pumps send the liquid to the settling/flow equalization tank.

Every 11.5 minutes, dedicated pumps in the equalization compartment run for 3.5 minutes, sending 105 gallons through 2-inch pipes to each treatment unit. Badger chose the FAST systems because they require little maintenance, handle fats, oils, and grease, and reduce BOD and TSS to less than 30 mg/l with 65 percent nitrogen reduction.

The 2-inch supply manifolds drain back through the supply valve boxes to the dosing tanks. The 2-inch return manifolds drain through the return valve boxes, then tie into a 4-inch line routed back to the flow equalization tank to keep water from freezing in the pipes.

Rexroth custom-built valve boxes to dose the dispersal field zones in any possible combination, allow resting of zones if necessary, and allow easy field expansion. Each zone has 24 runs at 175 feet on 1-foot centers. Zones 1 and 2 have an independent control panel, as do zones 3 and 4.

“We’re dealing with specific flow rates and numbers of lines with only one pump per zone,” Rexroth says. “It requires custom valve boxes to make sure we get the proper operation and can disperse enough effluent.”

“We talked to the guys working at the site and they said the area had recently been under two feet of water. Whoa! Time out. We’re not putting a dispersal field there.”

Scott Rexroth

The one-half-gallon-per-hour emitters on the drip tubing drain into the soil. The 2-inch supply manifolds drain back through the supply valve boxes to the dosing tanks. The 2-inch return manifolds drain through the return valve boxes, then tie into a 4-inch line routed back to the flow equalization tank to prevent water from freezing in the pipes.

Installation

The Department of Health located the dispersal field in an outwash moraine to keep it away from the development. At the preconstruction meeting, Badger and Rexroth noticed that the moraine was very wet, although it was all sand. “We talked to the guys working at the site, and they said the area had recently been under two feet of water,” says Rexroth. “Whoa! Time out. We’re not putting our field there.”

A wooded sand dune 15 feet higher in elevation than the moraine and about 200 feet away seemed a better alternative. The men asked Dave Ortel, a Department of Health representative and registered soil scientist, for permission to move the dispersal field. He agreed and did the soil work that day.

Rexroth coordinated with Mike Earley, project manager for Site Masters, on when to excavate the tank holes and set the tanks. “Pipe slope elevations



dictated that we set the septic tank at an elevation that precluded flow by gravity, which is why we needed a lift station pumping to the flow equalization tank," says Rexroth.

The deep excavations required severe trench box work and constant dewatering. Earley added 12 inches of gravel to bed the tanks and poured a 24-inch-thick concrete anti-flotation collar around the lift station. He returned to unload and set the 33-ton bottom halves of the tanks when they arrived, then placed the 32-ton upper halves after Rexroth installed and plumbed the treatment units and lift station.

"We coordinated every move with Mike, even the backfilling, so we both worked as efficiently as possible," says Rexroth.

That coordination extended to Earley removing trees from the dispersal field site, scarifying sand to lower the elevation, and contouring the dune. "Roots weren't a problem because the sand enabled Mike to pull out most trees by the roots," says Rexroth. "On the other hand, we had to plan how Brian Baker of Baker Construction in Noblesville was going to pull through the drip tubing without sinking his walk-beside LM-42 Vermeer vibratory three-shank plow."

Another challenge was dispersing 10,000 gpd in the small field. "If we installed tubing on 2-foot centers with a half-gallon-per-hour emitter every two feet, the pumps would run nonstop," says Rexroth.

Rexroth conferred with Badger, who suggested adding six inches of topsoil for traction, then knifing in three lines on 1-foot centers six inches deeper than originally planned to take advantage of the sand's higher loading rate. Baker also added a second set of wheels to distribute the weight of the machine better.

"The modifications sound easy today, but they were real obstacles when faced with a fast-approaching deadline," says Rexroth. "In the end, we finished the installation on schedule."

Maintenance

Sewer or Septic Services in Noblesville holds the maintenance contract. Quarterly, two technicians check sludge levels, clean the effluent filters, test the pumps and float switches, clean the air filters on the blowers, observe the treatment media, flush the drip field, and pull effluent samples for BOD, TSS, pH and temperature. □

MORE INFO:

Bio-Microbics, Inc.
800/753-3278
www.biomicrobics.com
(See ad page 17)

SPI - Septic Products, Inc.
419/282-5933
www.septicproducts.com
(See ad page 39)

Geoflow, Inc.
800/828-3388
www.geoflow.com

Vermeer Manufacturing Co.
888/837-6337
www.vermeer.com

Oldcastle Precast, Inc.
888/965-3227
www.oldcastleprecast.com/
wastewater

Zoeller Pump Company
800/928-7867
www.zoeller.com

Polylok/Zabel
877/765-9565
www.polylok.com
(See ad page 44)



Sore Back?

A durable plastic septic lid that fits plastic and concrete risers

THE DUEL POWER LID

Sizes:
18" • 24" • 30" • 36"

Insulated Lids & Adaptor Rings Available

Booth 9018

Fergus Power Products

1-800-243-7584 Email: fpproducts@prtcl.com www.ferguspowerproducts.com



ALITA® LINEAR AIR PUMP

- ☑ Full range of efficient and reliable aeration pumps for Aerobic Treatment Unit
- ☑ Low energy cost and quiet operation
- ☑ 3 Years Manufacturer Limited Warranty
- ☑ Parts and repair available for variety of brands of linear air pumps

☎ Call 626-962-2116 for more information

ALITA INDUSTRIES, INC.
P.O. Box 660923, Arcadia, CA 91066-0923, USA
phone: (626) 962-2116 fax: (626) 962-2177
on-line: www.alita.com e-mail: sales@alita.com

UL US
UL certified in compliance to USA and Canada safety standards for outdoor air compressors



Bag Full

onsiteinstaller.com

- > Classifieds
- > Articles
- > E-zines
- > Product Categories

Scan the code with your smartphone.

Come In We're OPEN

www.onsiteinstaller.com

Switch to Floatless

The Float Switch Leader Now Offers Floatless Technology for On-Site



IFS Panels with C-Level™ Sensor

C-Level™ sensor detects the liquid level in the tank and sends a signal to the IFS panel. Pump activation and alarm levels are adjusted on the panel touch pad, eliminating the need to go into the tank. One C-Level™ simulates up to four (float) levels.



C-Con™ Converter Box

C-Con™ box converts most control panels to utilize the floatless C-Level™ sensor to simulate up to four (float) levels. Activation levels are easily set using the output dials. Works well in wastewater pump, confined space and grease applications.



SJE Level Monitor™ CL System

With a glance, see the level in your tank! SJE Level Monitor™ CL uses the floatless C-Level™ sensor to monitor the tank level by a scalable LED bar graph to display the level as a percentage of a full tank. If the level reaches setpoint, the audible alarm activates.

Reliable Alternative to Mercury!
Visit Us at Pumper #1017
www.sjerrhombus.com

SJE-Rhombus

DO YOU HAVE SOMETHING TO HIDE?™



Conceal unsightly devices with ultra-realistic rock enclosures. New sizes and new colors now available.

- Several models cover septic risers—even those with junction boxes
- Heavy-duty commercial construction built to last
- New shapes and sizes
- Smaller models cover cleanouts and vents

NEW MODELS & COLORS for 2012!



Manufactured by www.dekorraproducts.com - Toll-Free 888-635-8585



We've got the

www.hedstromplastics.com
100 Hedstrom Drive, Astoria, OR 97103

Septic Tank COVERED!

Booth 3137



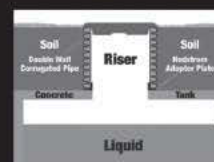
Ask us about our NEW Safety Net!

Fits standard 18" and 24" double wall pipe. Pipe furnished by installer.

- Strong green heavy wall polyethylene yet lightweight
- Fits standard 18" & 24" double wall corrugated pipe (not included)
- New safety net available upon request
- Gaskets and safety hardware included with all covers
- Can be filled with sand on site for added weight
- Foam filled lids upon request
- Can be customized with your name

Stop infiltration with a tank adapter.

18" and 24"



Call Today!
877-623-6222



2012 PUMPER & CLEANER EXPO PRODUCT PREVIEW



A Full House

It's going to be wall-to-wall tools and equipment to build your business at the 2012 Pumper & Cleaner Environmental Expo

By Ed Wodalski

Ask regular attendees of the Pumper & Cleaner Environmental Expo International what keeps bringing them back for more. They'll tell you a main attraction is seeing all the latest products for the industry, all in one place.

With hundreds of vendors and an all-new venue in downtown Indianapolis, it will be a challenge to see it all. This year the exhibit hall will be open from 9 a.m. to 5 p.m. Tuesday and Wednesday, Feb. 28 and 29, and from 9 a.m. to 2 p.m. Thursday, March 1.

To make sure you don't miss out on any of the breakthrough offerings at the Indiana Convention Center, there's an interactive floor plan at www.pumpershow.com to help plan your visit. Whether you're a first-time visitor or long-time guest, the 32nd Annual Expo has the tools you need to build efficiency and profitability for your business.

Here's a look at some of the highlights.



Additives/Restoration

1 Arcan Enterprises Inc.

Septic-Scrub drainfield flow restorer from Arcan Enterprises Inc. is a chemical treatment that oxidizes sulfides and releases oxygen, enabling soil bacteria to work better. Environmentally friendly, the treatment contains no organic chemicals and produces no toxins. 931/368-1903; www.arcan.com; Expo booth 10025.

2 Cape Cod Biochemical Co.

AfterShock soil absorption restorative from Cape Cod Biochemical Co. restores drainage to clogged and sluggish drainfields and drainage structures. The formula contains a multistrain bacillus, spore-bearing bacteria as well as a proprietary, bacteria-friendly, time-release oxygen source. 800/343-8007; www.septiconline.com; Expo booth 408.

3 Ecological Laboratories Inc.

Pro-Pump/Bio-remediation kits from Ecological Laboratories Inc. are designed to recover flow in fouled and ponding absorption fields. The kit includes Pro-Pump/HC (high count) live, vegetative bacteria Pro-Pump/SA (sludge away) natural humus soil biostimulant and Pro-Pump/OX (powered oxygenator) calcium peroxide/hydroxide mix. 800/326-7867; www.propump.com; Expo booth 10095.

4 Greenovative Technologies

EcoHancer septic treatment from Greenovative Technologies, a JSH International company, is made from naturally occurring peat. The non-toxic formula stimulates existing microbial populations in the septic system, accelerating their growth and activity to help improve septic tank settling, reduce sludge buildup and maximize drainfield performance while reducing suspended solids in the effluent. 856/234-4540; www.greenovativetechnologies.com; Expo booth 12004.

5 Jet Inc.

Accu-Tab wastewater calcium hypochlorite tablets from PPG Industries and distributed by Jet Inc. contain 73 percent nominal available chlorine. The tablets feature a beveled edge, 2.5-inch diameter to reduce wicking and are made for use in onsite aerobic wastewater systems that treat up to 250,000 gpd. 800/321-6960; www.jetincorp.com; Expo booth 120.

6 Lenzyme Inc.

The ONE SHOT Plus biological enhancement kit from Lenzyme Inc. is designed to re-establish percolation in slow and sluggish drainfields, cesspools and seepage pits. The product contains highly concentrated bacteria that blend to break down organic waste. 800/223-3083; www.lenzyme.com; Expo booth 5026.



7 Reckitt Benckiser/RID-X
RID-X commercial septic system treatment from Reckitt Benckiser is a biological additive containing billions of natural active bacteria and enzymes that digest household waste. It breaks down toilet paper, vegetable matter, fats, oils and grease, proteins and starches. 855/776-7439; www.rid-x.com/professionals; Expo booth 9004.

8 Roebic Laboratories Inc.
The K-570 Leach and Drain Field Opener from Roebic Laboratories Inc. features a concentrated formulation of enzyme-producing bacteria designed to attack the clogged area. A quart of concentrate treats a 1,500-gallon system, while a half-gallon treats 2,500 gallons. 203/795-1283; www.roebic.com; Expo booth 332.

9 Septic Drainer/Municipal Sales Inc.
Septic Drainer drainfield (leach, cesspool and drywell) restorative from Municipal Sales Inc. is a non-toxic, non-hazardous additive that breaks the bond between sodium and the soil that creates hardpan and prevents systems from draining. 518/812-0000; www.septicdrainer.com; Expo booth 9006.

11 Salcor Inc.
The 3G ultraviolet onsite wastewater disinfection unit from Salcor Inc. has a two-year lamp life and offers increased protection against flooding. Features include easy accessibility, fouling-resistant Teflon, quick installation and minimum annual maintenance. Other features include alarm circuit, coated circuit board, electrical surge protection and virtual elimination of noise. 760/731-0745; Expo booth 1045.

Pumps

12 Champion Pump Company Inc.
The CPEH5 effluent pump from Champion Pump Company Inc. is designed to pump through long runs of pipe or high heads. The cast-iron, 3/4-inch solids-handling pump has a 65-foot shut-off head and can pump effluent through the equivalent of 5,200 feet of 2-inch pipe (based on 5-foot static head). 800/659-4491; www.championpump.com; Expo booth 140.

13 Clarus Environmental
The centrifugal STEP (septic tank effluent pump) from Clarus Environmental is designed for use in a septic tank as an alternative to a separate pump tank. A separate pumping chamber is not required. The effluent pump, float system and effluent filter pack set in a polyethylene vault can be used in new construction or repair sites when gravity flow is not an option. 877/244-9340; www.clarusenvironmental.com; Expo booth 9054.

14 Franklin Electric Co. Inc.
The Little Giant GP Series grinder pump from Franklin Electric Co. Inc. shreds materials at a rate of 400,000 times per minute. Designed for light commercial applications, residential low-pressure sewer systems and applications with difficult soil or topography, the pump provides maximum heads of 130 feet. 260/824-2900; www.franklin-electric.com; Expo booth 102.

15 GEA Farm Technologies
The SYNC2 modular piston pump from GEA Farm Technologies is designed to transfer septage long distances at a constant flow rate for feeding a digester or separation system. Features include positive displacement pump with 2-, 3- or 4-inch cylinders, energy-efficient, low-horsepower (2 to 7.5 hp) drive system, compact design with steel flapper doors under each piston. 819/477-7444; www.gea-farmtechnologies.com/houle/en; Expo booth 1127.

16 Liberty Pumps
The Omnivore LSG-Series 2 hp grinder pump from Liberty Pumps features V-Slice Cutter Technology, providing 372,000 cuts per minute for superior shredding performance in demanding applications. The pump's open-volute design eliminates the cutwater, improving solids flow and reducing potential jamming. 800/543-2550; www.libertypumps.com; Expo booth 4040.

Filtering/Disinfecting

10 Bear Onsite LLC
The 9-inch case adapter (model 9-ADA) effluent filter case accessory from Bear Onsite LLC can be used with any existing Bear filter. The adapter glues to the bottom of the filter case, creating either an inlet extension, hub for support legs or both. 877/653-4583; www.bearonsite.com; Expo booth 12056.



17



18



19



20



21



22



23



24



25

Installation Components

17 Advanced Drainage Systems Inc.

Articulating drain chambers (Arc 36, 36 HC, 36 LP, Arc 24 and Arc 18) from Advanced Drainage Systems Inc. offer an alternative to the traditional gravel and pipe systems for both new onsite residential and commercial wastewater systems and existing septic system repairs. An optional side port coupler snaps into the center or either end of the chamber for cleanout access while allowing for 10-degree articulation. 800/733-7473; www.ads-pipe.com; Expo booth 9129.

18 Geoflow

The Wasteflow dripline from Geoflow features Rootguard protection and antimicrobial protection inside the pipe and inside each drip emitter. Available in Classic and pressure-compensating models, each dripper has its own built-in filter and continuous, self-cleaning turbulent flow passage to keep debris out. 800/828-3388; www.geoflow.com; Expo booth 1138.

19 Hedstrom Plastics

Personalized polyethylene septic tank lid covers from Hedstrom Plastics offer septic pumpers a way to effectively retain customer accounts, especially where new residents move into an old customer's home. The rotationally molded lids can be engraved with a contractor's name and phone number. 800/765-9665; www.hedstromplastics.com; Expo booth 3137.

20 Infiltrator Systems Inc.

The IM-1060 injection molded, plastic septic tank from Infiltrator Systems Inc. features a mid-seam joint with EPDM gasket for a watertight seal. The two-piece design is permanently fastened using a series of non-corrosive plastic alignment dowels and locking seam clips. The tank can be installed with 6 to 48 inches of cover and pumped dry. 800/221-4436; www.infiltratorsystems.com; Expo booth 10086.

21 Netafim USA

Bioline purple polyethylene dripperline from Netafim USA is designed for use with onsite wastewater systems or wherever non-potable water needs to be evenly applied. The debris-resistant, continuous, self-flushing and pressure-compensating line has an impregnated antibacterial to prevent microbial slime buildup. 888/638-2346; www.netafimusa.com; Expo booth 114.

22 Roth Global Plastics

The MultiTank from Roth Global Plastics can be used for rainwater or as a water cistern, holding or septic tank. Features include an inner layer of FDA-approved virgin HDPE, two inside layers of PE for improved stability and an outer layer of black and UV-stabilized PE. 866/943-7256; www.roth-america.com; Expo booth 9010.

23 RotoSolutions Inc.

Polyethylene septic lids from RotoSolutions Inc. are available in 12- and 24-inch diameters, weigh 8 pounds (24-inch) empty and have a 3,500-pound load rating. The lids can be customized with company logo, name and phone number. 800/868-0973; www.rotosolutions.com; Expo booth 1039.

24 Septic Services Inc.

The MAXAIR500 submersible aerator from Septic Services Inc. has durable corrosion-resistant stainless steel legs. The continuous-duty maintenance-free motor is fully enclosed in a stainless steel and powder-coated outer shell. The high-impact plastic handle design provides added convenience. 800/536-5564; www.maxair500.com; Expo booth 6016.

25 Tuf-Tite Inc.

Twenty-four-inch risers from Tuf-Tite Inc. fit most plastic, fiberglass and concrete tanks, including most riser pipes. They hold up to 70 pounds of concrete or can be insulated to R-10. The risers have permanent molded-in polyurethane gaskets for an air and watertight fit. All risers come with vertical and horizontal safety screws. 800/382-7009; www.tuf-tite.com; Expo booth 9118.



Treatment Systems

26 Bio-Microbics Inc.

The BioBarrier Membrane BioReactor (MBR) treatment system from Bio-Microbics Inc. is NSF/ANSI 350 certified for water reuse. Designed for direct discharge, difficult sites and water reuse applications, the system meets effluent quality of less than 2 mg/l BOD and TSS, and less than 1 mg/l of ammonia. 800/422-0707; www.biomicrobics.com; Expo booth 116.

27 Eljen Corp.

The GSF Geotextile sand filter wastewater treatment system from Eljen Corp. features a two-stage Bio-Matt pretreatment process that provides treatment and disposal in the same footprint. Septic tank effluent is filtered through the Bio-Matt fabric and biologically treated by the unit's large surface area. Open air channels within the module support aerobic bacterial growth on the module's geotextile fabric interface. 800/444-1359; www.eljen.com; Expo booth 10031.

28 Norweco Inc.

The Singulair Green wastewater treatment unit from Norweco Inc. can process up to 600 gpd, fits limited-access and steep-grade sites and is ANSI/NSF Standard 40 certified. The system features polyethylene, single-tank technology with integral pretreatment, flow equalization and disinfection. 800/667-9326; www.singulairgreen.com; Expo booths 4022, 4023.

29 Orenco Systems Inc.

The AdvanTex AX20-RTUV wastewater treatment system from Orenco Systems Inc. is a complete, self-contained module for treating septic tank effluent to better than secondary standards (10 mg/l BOD5 and TSS) with nitrogen reduction of 60 to 70 percent and ultraviolet disinfection. All interior components are pre-plumbed, installed and adjusted at the factory, and easily accessible for annual O&M. 800/348-9843; www.orenco.com; Expo booth 6040.

30 Premier Tech Aqua

The Ecoflo polyethylene ready-to-use wastewater treatment system from Premier Tech Aqua is available in nine models. Made with roto-molded plastic, the plug-in system is shipped preassembled (components and filtering media) to the site. 800/632-6354; www.premiertechaqua.com; Expo booth 9002.

31 Presby Environmental Inc.

Advanced Enviro-Septic from Presby Environmental Inc. is an NSF-40 Class I certified onsite system that combines treatment and dispersal into one small footprint without needing replacement media or special maintenance. The passive, non-mechanical system can be installed on virtually any site. 800/473-5298; www.presbyenvironmental.com; Expo booth 1021.

Alarms

32 CSI Controls

The AlarmBot outdoor post alarm system from CSI Controls features a clear beacon and red flashing LEDs for maximum visibility. As the level in the tank rises, it activates the high-water alarm float; the clear beacon illuminates 360 degrees by four alternating high-intensity red flashing LEDs and the 95 dBA beep tone alarm sounds. The alarm can be silenced using the on/test/silence switch. 800/363-5842; www.csicontrols.com; Expo booth 330.

33 Septronics Inc.

The PMJTDB exterior junction box pump control/alarm from Septronics Inc. is outfitted with a removable terminal board supporting a built-in event counter. Monitoring the filter and pump from the same control box allows users to see the wear and tear on the pump and to calculate how much liquid is being moved. The unit sets on a high-impact poly pedestal providing an area to connect through to the tank with the pipe nipple. 262/567-9030; www.septronicsinc.com; Expo booth 128.

34 SJE-Rhombus

The C-Con converter box from SJE-Rhombus is designed to convert most simplex and duplex control panels to utilize the floatless technology of the C-Level sensor. The C-Con unit converts the signal from the C-Level sensor to simulate float levels (up to four floats). Activation can be set and adjusted at the converter box. 888/342-5753; www.sjerhombus.com; Expo booth 1017.



35



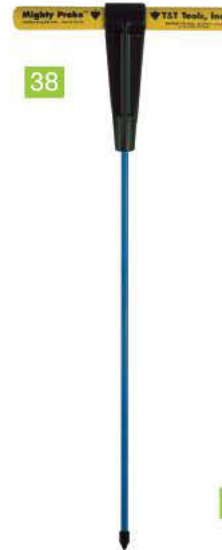
36



39



37



38



40



41

Calling all business owners!

Equipment/Accessories

35 Crust Busters/Schmitz Bros. LLC

The Crust Buster handheld power agitator from Crust Busters/Schmitz Bros. LLC is made for septic tanks, grease traps and sand traps. Powered by a 2.5 hp Emak engine, the auger has an 80-inch shaft and two- or three-blade propeller. 888/878-2296; www.crustbusters.com; Expo booth 8041.

36 IHI Compact Excavator Sales LLC

The 40VX-3 mini excavator from IHI Compact Excavator Sales LLC is a 10,206-pound, zero-tail-swing unit with a digging depth of 11 feet 10 inches and a digging force of 9,854 pounds. Features include 38.5 hp Yanmar engine, four-post canopy, rubber tracks, auxiliary piping, pattern change valve, suspension seat, arm rest and backfill blade. 800/538-1447; www.ihices.com; Expo booth 2005.

37 SIM/TECH FILTER Inc.

The large-diameter TruCore sludge sampler from SIM/TECH FILTER Inc. is designed for thicker sludge common to septic tanks. Samples can be taken quickly without creating excessive turbulence because there are no restrictions caused by valves, stoppers or flaps. 888/999-3290; www.simtechfilter.com; Expo booth 2068.

38 T&T Tools Inc.

The Mighty Probe from T&T Tools Inc. features a specially designed insulated handle, making it safer while retaining the benefits of a steel probe. The high-strength steel shaft is available in lengths from 3 to 6 feet (1/2-foot increments) with a replaceable tip. An optional slide adapter turns the unit into a mini slide hammer probe. 800/521-6893; www.mightyprobe.com; Expo booth 402.

39 Topscope

The raised flower garden well and septic landscape covering from Topscope fits over most septic tank risers. Made of weather-resistant natural cedar, the basket-shaped cover, supported by a metal ring on the inside, holds four drop-in plastic pots, providing a decorative way to camouflage septic tank risers up to 32 inches in diameter. The planter also can serve as a stand-alone raised garden. 608/333-3610; www.discovertopscope.com; Expo booth 6046.

Marketing

40 A Corp/Rooter-Man

Rooter-Man drain cleaning franchises from A Corp/Rooter-Man include exclusive use of registered trademarks in your territory, comprehensive training programs, dedicated support and discounts through national buying power. Franchises are taught how to run a successful business through personal training and an 11 step-by-step manual that outlines every aspect of running a franchise, including national and localized Internet marketing programs. 800/700-8062; www.rootermanfranchise.com; Expo booths 3148, 4149.

41 American Express

The OPEN business card from American Express provides access to products, tools and services. Cardholders can track and manage spending online, earn rewards on business purchases, get answers 24/7 and tap into resources and other information. 800/528-4800; www.americanexpress.com/open; Expo booth 4101.



▶ For more information or to register today visit:
www.pumpershow.com

SEE US AT THE PUMPER SHOW BOOTH #128

WE WILL BE WATCHING FOR YOU!



- Exterior Pump Controls with:
 - Exterior Alarms
 - Interior Alarms
- Pedestals in 3 different Heights
- Low Profile Riser Junction Boxes
- 120V or 240V Terminal Boards:
 - Slip in agility
 - Piggyback Plugs
 - Event Counters
- Float Switches
- Cord Corrals (New)
- Cord Seals
- Alarms



Septronics® Inc.

Junction Boxes, Alarms, Pedestals, & Pump Controls

www.septronicsinc.com

Ph: 262.567.9030 • Toll Free: 888.565.8908

NAWT

NATIONAL ASSOCIATION OF
WASTEWATER TRANSPORTERS, INC.



UPCOMING TRAINING & EVENTS

Inspector Training & Certification:

January 30-31, 2012 - Laughlin, NV
Southwest Onsite Wastewater Conference
Contact: Kitt Farrell-Poe at (520) 621-7221

Operation & Maintenance Training Certification:

January 21-22, 2012
Post-CPOW Annual Conference
Contact: Bob Wright, PE (702) 272-6469
or Kim Seipp (303) 622-4126

January 26-28, 2012 - Edmonton, Alberta

AOWMA 14th Annual Conference
Edmonton, Alberta Canada
Contact: Lesley Desjardins (780) 994-8955

February 15-16, 2012 - Lincoln, NE

NAWT Operation & Maintenance Training Part I
NOWWA Convention & Trade Show
Contact at (402) 467-0162 or nowwa@h2oboy.net

February 15-16, 2012

Nebraska Water Industries
Convention & Trade Show
Contact: Jason Orton, jason@h2oboy.net

1-Hour Online Operation & Maintenance

April 9-10, 2012
More information to come. Email: info@nawt.org

WATCH THE NAWT WEBSITE AND
INDUSTRY MAGAZINES FOR UPDATES

FOR MORE INFORMATION CALL
800-236-6298

WWW.NAWT.ORG

SOLD

Sell your
equipment in
Onsite Installer
classifieds

Reach over 21,000 potential buyers each month when you list your equipment in the classified section. Plus, your listing is placed automatically online at the *Onsite Installer* website. That's two ways to move your equipment out of the parking lot!

Why wait?

Go to
OnsiteInstallermonthly.com/classifieds/place_ad



Scan the
code
with your
smartphone.

February 27th – March 1st, 2012

Indiana Convention Center • Indianapolis, Indiana



Education Day

Monday, February 27th

SSCSC

Southern Sections Collection Systems Committee

- 8 a.m. Rust into Gold
- 9:30 a.m. Maintaining Collection System Easements
- 11 a.m. Sanitary Sewer Overflows: What To Do When It Is Flowing Down the Street
- 1:30 p.m. Finding Success and Growth in the Pipeline Cleaning Business
- 3 p.m. Evaluating and Optimizing the Efficiency of a Combination Truck
- 4:30 p.m. CCTV Inspection Essentials

NOWRA

National Onsite Wastewater Recycling Association

- 8 a.m. Aerobic or Anaerobic - Which One Is Better?
- 9:30 a.m. Mound Systems – Not Just for Wisconsin!
- 11 a.m. Dead Bacteria - How Overuse of Cleaners and Household Products KILL
- 1:30 p.m. Onsite Electrical
- 3 p.m. Managing Commercial Wastewater Treatments
- 4:30 p.m. Choosing the Right Float to Control Your Pump

NAWT

National Association of Wastewater Transporters

- 8 a.m. What I Need to Know About Trucking Safety
- 9:30 a.m. Setting the Dose, Establishing the Pump Delivery Rate & Relative Control Sensor Adjustment
- 11 a.m. Certification and Septic System Inspections
- 1:30 p.m. Is There Value in Processing My Own Sludge?
- 3 p.m. Maintenance Frequency Standards and Requirements
- 4:30 p.m. Working with Small Communities: System Management

NEHA

National Environmental Health Association

- 8 a.m. Promoting Competence: What's in It for Me?
- 9:30 a.m. Septic Tank Science
- 11 a.m. Advanced Treatment - What Does That Mean?
- 1:30 p.m. Successfully Dosing Pipe Networks
- 3 p.m. Pump Replacement
- 4:30 p.m. The State of the Industry: The Forecast, The Strategy, The Tools

NASSCO

National Association of Sewer Service Companies

- 8 a.m. Sewer Ops and CMOM - Leveraging the CMOM Process for Operational Benefit
- 9:30 a.m. Larry Keist - Developments in Water Main Linings
- 11 a.m. Culvert Rehabilitation: Have It Your Way
- 1:30 p.m. Manhole Lining: The Secret to a Successful Installation
- 3 p.m. Inspection of Pipelines Under Full Flow Conditions
- 4:30 p.m. Sewer and Industrial Equipment Rental - What are the Options?

BUSINESS TRACK

General Business - Scott Hunter

- 8 a.m. Keeping Employees and Customers Happy - Part 1
- 9:30 a.m. Keeping Employees and Customers Happy - Part 2
- 11 a.m. Keeping Employees and Customers Happy - Part 3
- 3 p.m. How to be Successful and Profitable in Any Economy - Part 1
- 4:30 p.m. How to be Successful and Profitable in Any Economy - Part 2

WJTA

WaterJet Technology Association

- 8 a.m. Accessorizing Your Vacuum Unit
- 9:30 a.m. Good Craftsmen Have Heavy Toolboxes
- 11 a.m. Waterjet Technology: Applications and Equipment

PSAI

Portable Sanitation Association International

- 1:30 p.m. Cost Analysis: Delivery, Removal, Moves and Tip-Overs - Part 1
- 3 p.m. Cost Analysis: Delivery, Removal, Moves and Tip-Overs - Part 2

WASTEWATER EDUCATION

in Association with NOWRA

- 8 a.m. Social Media: Friend or Foe?
- 9:30 a.m. Taking it to the Web, Infinity and Beyond!



DETAILED SESSION INFORMATION AVAILABLE AT:

WWW.PUMPERSHOW.COM



Indianapolis 2012

Tuesday Sessions

February 28, 2012

MUNICIPAL TRACK

- 8 a.m.** Inspecting and Locating Laterals
Edward A. "Digger" Diggs - CUES, Inc.
- 9:30 a.m.** Get Quality Results From Your Inspection Management Program!
Rod Thornhill, Cori Criss - Infrastructure Technologies
- 11 a.m.** Using Chemical Grouts to Protect Mainlines, Laterals, Manholes and Lift Stations
Daniel Magill - Avanti International

SEWER AND DRAIN TRACK

- 8 a.m.** Contractors Need to Improve Jetting Sales
Nick Woodhead, Ken Bryson - US Jetting
- 9:30 a.m.** Lift Station Backup Pumping
Majid Tavakoli - Thompson Pump
- 11 a.m.** Optical Advancements Improve Range and Clarity of Pipeline Zoom Inspection
Richard Lindner - EnviroSight

BUSINESS TRACK

- 8 a.m.** Market Like the Green Bay Packers
Jerard Nighorn - Lenzyme, Inc.
- 9:30 a.m.** Training is the Key to Unclogging a Messy Business
William Raymond - Nexstar Network
- 11 a.m.** How to Make Profits That Drop Straight to the Bottom Line
Jenny Alday - One Biotechnology

PORTABLE RESTROOM TRACK

- 8 a.m.** How Your Portable Toilet Company Can Save Money By Saying "No"
Joel Smith - Clear Computing
- 9:30 a.m.** New Emission Standards for Service Trucks
John Olson - Satellite Industries
- 11 a.m.** New Portable Restroom Products
David Roncadori - J&J Chemical Co.

LIQUID WASTE TRACK

- 8 a.m.** What You Should Know About ATUs and How to Evaluate and Service Them
Doug Dent - Ecological Labs
- 9:30 a.m.** From the Kitchen to the Grease Trap to the Landfill
Dennis Brunetti - FloTrend
- 11 a.m.** The Evolution of Effluent Filters
Theo Terry - Bear Onsite

Wednesday Sessions

February 29, 2012

PIPE RELINING TRACK

- 8 a.m.** Advances in Monitoring Technology Help Ensure Proper Liner Cure
Jake Wells - Pipeline Renewal Technologies
- 9:30 a.m.** UV Cured Fiberglass Pressure Liner
Richard Montemarano - LightStream
- 11 a.m.** New Braunfels Utilities Performs Manhole-to-Manhole Lining in-House
Travis Bohm - Perma-Liner Industries

INSTALLER TRACK

- 8 a.m.** Installation and Operation of Float Switches
Brett Wilfong - SJE-Rhombus
- 9:30 a.m.** STEPPing Up
Dennis Hallahan P.E. - Infiltrator Systems

BUSINESS TRACK

- 8 a.m.** Septic, Sewer & Portable Business Valuation Basics
Jeff Bruss - COLE Publishing
- 9:30 a.m.** Inexpensive Marketing, Promotion & Advertising Ideas for Septic, Sewer & Portable Companies
Jeff Bruss - COLE Publishing
- 11 a.m.** Making the Most of Mobile Marketing
Jeff Bruss - COLE Publishing

GAS, OIL AND MINING TRACK

- 8 a.m.** Vacuum Equipment in the Marcellus Shale Region
Mark Nixon - MORO USA
- 9:30 a.m.** How to Vacuum More Efficiently with a Positive Displacement Blower
Jeff Peterson - Hibon, Inc., a division of Ingersoll Rand
- 11 a.m.** Why Choose Hydroexcavation? Opportunities in the Oil and Gas Exploration Industry
Neil McLean - Hydro Excavation Consulting Unlimited

INDUSTRY SAFETY TRACK

- 8 a.m.** Cross Bores, Deadly but Preventable - Your Actions Can Save Your Life
Mark Bruce - Can Clay
- 9:30 a.m.** Is the Air in Your Manhole or Confined Space Safe to Breathe?
Ed Fitzgerald - Jack Doherty Companies
- 11 a.m.** OSHA: Introduction to Soil Analysis
Gary Hooks



Sponsored by: COLE Publishing

ADVANCED INSTALLER COURSE

8 HOURS • ROOM 130-132

Jim Anderson and Dave Gustafson

DETAILED SESSION INFORMATION AVAILABLE AT:

WWW.PUMPERSHOW.COM

Rockin' Rodney

Red-hot country singer and authentic American success story Rodney Atkins will "cut loose and have fun" at the Pumper & Cleaner Expo

By Jim Kneiszal

Rodney Atkins rose from a hardscrabble beginning as a sickly orphan to the heights of country music stardom, producing back-to-back *Billboard* top country songs for 2006 and 2007 and continuing to churn out popular anthems of real life and love.

Atkins' compelling American success story continues with his next musical challenge: Entertaining the throngs at the 2012 Pumper & Cleaner Environmental Expo International. Atkins will bring a bushel basket of heartfelt hits when he arrives on the stage on Tuesday, Feb. 28, at the grand ballroom of the JW Marriott Hotel in Indianapolis.

Atkins' 7 p.m. performance will follow the ever-popular Industry Appreciation Party – with its festive atmosphere and 25-cent tap beers – which begins at 5 p.m. The evening of fun caps off the opening day of the Expo exhibits at the adjacent Indiana Convention Center in downtown Indy. The Industry Appreciation Party and Atkins' live performance are included with full Expo registration.

"Sometimes you just want to cut loose and have fun, and you have to do something unexpected... You just have to kind of roll with it. That's how I try to be on stage."

Rodney Atkins

Atkins is well-known for a string of top 10 hits that started in 2003 with "Honesty (Write Me a List)" from his first album entitled *Honesty*. A familiar voice on country radio for almost a decade, Atkins struck gold in 2006 and 2007, when his singles, "If You're Going Through Hell (Before the Devil Even Knows)" and "Watching You," hit No. 1 and were named the top country songs of the year by *Billboard* magazine.

Rags to riches

While country music fans can hum along with Atkins' many hits, they might not be so familiar with his inspiring personal story.

After being born in Knoxville, Tenn., in March 1969, he was put up for adoption and was twice returned to the Holston Methodist Home for Children by prospective parents who couldn't deal with his numerous illnesses. Though his ailments worsened, Margaret and Allan Atkins, from Cumberland Gap, Tenn., adopted the boy.



With his dedicated adoptive parents, Atkins thrived and became interested in music during high school. After school, he eventually signed a recording contract, but didn't release his first album until *Honesty*. The string of hits has never stopped, with the album *If You're Going Through Hell* gaining platinum status and producing additional No. 1 hits in "These Are My People" and "Cleaning This Gun (Come On In Boy)."

Atkins followed with his third album *It's America*, with a single of the same title, then "15 Minutes," and "Chasin' Girls" heading up the charts. In 2010, Atkins hit with "Farmer's Daughter," and he's currently touring with the lead-off single of his fourth album, the title cut "Take a Back Road," which hit No. 1 just a few months ago.

While he's built a solid career in Nashville, Atkins is proud of the family he's built, including his wife, Tammy Jo, and his son, Elijah. Along the

way, he's found it important to give back to others. He is a spokesperson for the National Council for Adoption and often returns to the orphanage that helped him find a loving family. In 2011, Atkins headlined the Nashville Give Back Concert to support tornado-ravaged communities through the American Red Cross.

A helping hand

"It is important for us to give to all of those in need. As an artist, I have performed in just about every town that has been hit by the many storms and I feel that this concert is a great way to reach out and help as many people as we can," he told the Nashville Convention & Visitors Bureau, which helped promote the relief effort. "We wanted to ... call people to action to continue to support the American Red Cross Disaster Relief Fund in any way that they can."

While Atkins is devoted to family and causes he finds important, he hasn't taken his foot off the accelerator, musically, either. According to his website, Atkins has sold four million singles in the past five years, and the sales have been going viral for "Take a Back Road." He credits the easy, heartfelt lyrics and laid-back, identifiable message of the song.

"'Farmer's Daughter' was one of the craziest download songs we had. It was peaking at 15,000 to 16,000 a week," Atkins says. "And now 'Back Road' is knocking on 40,000 a week. That was a validation for me to follow my heart ... It's one of those songs that, the first time I heard it I thought, 'Boy, that feels good.' And then it's catchy and something you want to just crank it up. But then, the more you hear it, you realize it's not just a ditty; it's about ... getting right with your soul, coming down to earth."

"Back Road" is about discovery ... both literally – exploring the beauty found in your backyard countryside, and symbolically – the simple joys of family and life. The emotional tune and the album in general present a winning formula for the thoughtful Atkins.

"I've had some success with my songs, and you've got to sit back and ask yourself, 'Why did these songs connect?' With a lot of songs, the approach is about how perfect things are, or how messed up things are – It's one or the other," he explains. "But for me, real life is there are ups and downs, and if you can, get both sides of that in a song."

And he's taken a reality check when it comes to love songs, too. Atkins says he was never interested in recording conventional love songs until he found several tunes that scratch beneath the surface of complex relationships. He includes several of these on the latest album. And they're songs hardworking family business owners who attend the Pumper & Cleaner Expo can surely relate to.

"Love is not all blue skies and no bills," he says. "It's gutters leaking and the cat messed in the fireplace. It's not convenient at all, and you've got to make time for it – that's the toughest part of it."

A treat on stage

Love songs, simple slice-of-life songs, or just about anything Atkins performs, he promises an energetic live show. He likes to change up the set list night after night to keep the audience and band in tune and engaged. Expo attendees can expect an edgy and fun time with Atkins and his band.

"Sometimes you just want to cut loose and have fun, and you have to do something unexpected ... You just have to kind of roll with it," Atkins explains. "That's how I try to be on stage, and the shows get better the more spontaneous they are, the less the band knows what's going to happen."

"I'm low-key, but I get excited on stage. I think that if I didn't have that outlet of playing live, I'd be frustrated a lot," he says. "Music was definitely my savior. It's a way of saying things that, hopefully, because it's in the form of music, will stay around awhile." □

ENTER HERE



EXIT

Way ahead of the competition

Join 21,000 of your industry peers each month who welcome **Onsite Installer**, for the unlimited value it brings them. Each issue will show you **hem**. Each issue will show you **new technology, tips on boosting machine performance, money-saving deals and much more.**

Scan this code with your smartphone to go to onsiteinstaller.com/order/subscription

Subscribe Today!
OnsiteInstaller.com/order/subscription



ABOUT THE AUTHOR

Eric Casey is executive director of the NOWRA. For more information or to join, visit www.nowra.org or call 800/966-2942.

A Good Investment

The 2012 NOWRA Annual Conference is the place to get knowledge and ideas that can give you a critical edge on your competitors

By Eric Casey

As a professional contractor, you might ask yourself: Why would I want to attend NOWRA's 21st Annual Conference (April 2-5 in Providence, R.I.)?

You may think it's too far away, too expensive, too technical, not focused on your state's issues. Any of these may look like valid reasons to stay home, but consider some of the ways you might benefit by attending.

Get a competitive advantage in your market. State onsite conferences are extremely valuable, but it's much harder to get an edge when everyone in the room gets the same information you do. NOWRA's conference brings together people from all around the country. Whether it's through a hallway conversation, a social event, or an education session, chances are good that you'll get business ideas that your competitors aren't hearing. Here are some specific ways to get great ideas:

- **Industry vendors.** The conference will feature an extensive trade show with many of the industry's most progressive companies exhibiting.

In times when business conditions are tough, it's difficult to get a leg up on your competitors. Getting ahead takes new thinking and fresh ideas that are difficult for your competitors to duplicate.

- **Case studies.** Examples of new technologies deployed in the field are sprinkled through the management, policy and technical education sessions.
- **Face-to-face conversations.** You'll have ample time to connect with leading professionals from around the country. Remember: Practitioners from other states aren't apt to be competitors.
- **Field trips.** The scheduled trips will show you a variety of innovative onsite technologies in action: new treatment processes, soil dispersal systems, solutions for difficult sites, commercial systems, and storm-water technologies based on onsite principles.

Meet your continuing education requirements. In most states, NOWRA's conference curriculum qualifies for credit hours in licensing or professional certification. That includes the Onsite A to Z Course, offered as a two-day track.

This comprehensive course covers the biology and chemistry of wastewater management, soils and site evaluation, septic tanks, ATUs, media filters, pumps, soil treatment principles, dispersal methods, operation and maintenance. If you're a seasoned pro, this course can fill gaps in your knowledge; if you're new to the business, you'll gain valuable insights about every aspect of onsite wastewater management.

If attending the conference gives you just one good idea that translates into more business, you will more than justify your cost of attending. Wise professionals look at the conference as an investment. Ample research shows companies that invest in their business during difficult times gain market share as business conditions improve.

Registration fees for the NOWRA conference are modest, the hotel is inexpensive, and airfares are reasonable. Visit the conference page at www.nowra.org and see how affordable the cost can be.

You likely have much in common with your colleagues regardless where they are located. For example, nitrogen reduction is a nationwide concern, especially in sensitive watersheds. It's also a hot topic at the conference, and you'll have a chance to hear multiple perspectives.

In times when business conditions are tough, it's difficult to get a leg up on your competitors. Getting ahead takes new thinking and fresh ideas that are difficult for your competitors to duplicate. If you're looking to make your business grow, NOWRA's 2012 conference may be just the tonic you need.



Have you seen the
ONSITE
installer
E-Zine?

Go to onsiteinstaller.com
to view the e-zine.



Brian Leiby, left, and Laura Leiby stand in front of their new skid-loader at their farm in Dorchester, Wis.

Wisconsin Family Wins Use of Skid-Loader

Brian and Laura Leiby of Dorchester, Wis., won free use of a Gehl model 5640E skid-loader for three months or 150 hours. The couple, who work a 450-acre farm, registered for the giveaway at the Wisconsin Farm Technology Days booth.

Anua's PuraM Receives Title 22 Certification

Anua's PuraM membrane bioreactor, engineered for the decentralized municipal and commercial water reuse market, received approval under California Recycling Criteria Title 22 from the State of California Department of Health. Title 22 regulation requires technologies to meet certain specifications for recycled water filtration applications. North Carolina State University tested PuraM at the Bord na Mona Innovation Center at the TZ Osborne Water Reclamation Facility in Greensboro, N.C., to confirm compliance.

Roth Hires Regional Sales Manager

Mike Morehouse joined Roth North America as regional sales manager with Roth Plastics division for the Eastern United States.

PPG Forms Distribution Partnership with Jet Inc.

PPG Industries formed a distribution partnership with Jet Inc. to be a nationwide master wholesale distributor for its Accu-Tab wastewater tablets. The tablets provide a source of chlorine to kill bacteria, control algae and destroy organic contaminants.

Infiltrator Acquires Advanced Drainage Systems

Infiltrator Systems Inc. acquired the assets of Advanced Drainage Systems Inc. and its subsidiaries. As part of the acquisition, ADS entered into a long-term, non-exclusive distribution agreement with Infiltrator Systems and will continue to market and sell its Arc and BioDiffuser product lines. Terms of the transaction were not disclosed.

Quanics Offers Wastewater Treatment Webinar

Quanics Inc. will offer a free, four-part webinar series, "Effective Wastewater Treatment Using the Decentralized Approach," on Feb. 15. Presented by Kevin Sherman, P.E., Ph.D, D.WRE., the series provides an overview of the technology, design requirements and management options for implementing decentralized wastewater strategies. To register, go to www.gotomeeting.com/register/519843862. □

Standing Apart

To the Editor:

What a great article! ("Seal of Approval," Breaking Ground, *Onsite Installer*, November 2011). I could not agree more.

I have preached for years that the way to increase participation in continuing education is not to mandate it but rather to promote it as a tool contractors can use to "distance themselves from corner-cutters."

Dennis McQuillan with the New Mexico Department of Health is in the process of developing a program where elite installers could obtain the level of Installer Specialist. We have been keeping a close eye on his program, and I think he will use the NOWRA education arm to deliver the needed training and continuing education.

As incoming president of NOWRA I assure you this issue is on a short list of my goals. I see NOWRA as the professional association that should step up to the plate and make the Clean Water Professional program a reality. I have been working closely with the education committee over the past two years and have several of the challenges accomplished.

Thanks for keeping this important idea in front of the readers.

Tom Fritts
Residential Sewage Treatment Co.
Grandview, Mo.

No fee for software

To the Editor:

I am writing to correct a factual error in the article by Robert Wright, P.E., "Pump to Gravity: Does It Make Sense?" in the December issue of *Onsite Installer*. Mr. Wright mentions my firm's patented hydraulic analysis software and states that we charge an annual fee which "most designers would need to weigh...against the number of pressure systems they design in a year."

In fact, our firm has never charged a fee for this software; it is free and downloadable at www.squirtonsite.com. The only restriction is that users need to contact me through the website or by phone at 406/581-1613 to gain access to the online version of the program.

Thomas J. Kallenbach, P.E.
President, Eliminite, Inc.



The most complete line of ...

- System Alarms
- Float Switches
- On-Site Accessories
- Control Panels

Call Today
419-282-5933
www.septicproducts.com
sales@septicproducts.com

 Booth 4119

To subscribe, visit www.onsiteinstaller.com
or call 800-257-7222

White Papers Champion Decentralized Systems

The State Onsite Regulators Alliance (SORA) developed two white papers to increase awareness and help decentralized wastewater systems be viewed as permanent infrastructure. "Decentralized Onsite Wastewater Technologies: Sustainable Green Infrastructure Protects Source Water Quality and Public Health" makes the case that state and national officials should view these technologies as environmentally effective and economically viable options for wastewater treatment.

"Decentralized/Onsite Wastewater Projects and Programs: Opportunities for Funding" advocates that these systems should be eligible for clean-water state revolving loans and other programs that fund centralized public sewer projects. Download the papers at www.nesc.wvu.edu/SORA.

Grassroots Effort Garners Success

The Michigan Septic Tank Association Legislative Committee testified twice in support of HB 4578, a bill that would require local governments to provide a receiving station if they ban land application of septage.

State Representative Ken Goike, a former MSTA director and author of the bill, MSTA legal consultant Joseph Quandt, board members Mark Scott and Joe Williams, and MSTA Legislative Committee Chairperson Dave Snyder answered questions and received a good response from the investigating committee. The House of Representatives passed the bill in October 2011.

Alberta Promotes Self-Enforcement

As part of the Alberta Onsite Wastewater Management Association enforcement initiative, installers reported 15 witnessed accounts of installations that do not uphold industry standards. The association then alerted the local inspector and Alberta Municipal Affairs Assistant Deputy Minister Ivan Moore. To help him make more informed decisions, Moore asked the association to provide milestone dates that outlined enforcement actions the department should take.

COWA Approved as Accrediting Agency

The California Onsite Wastewater Association has been approved by the Department of Public Health as an Accrediting Agency for the Registered Environmental Health Specialists continuing education program. The Septic Education Outreach Forum offers continuing education credits for Registered Environmental Health Specialists, who must complete 24 hours of such training every two years.

CALENDAR OF EVENTS

Jan. 10-12

Michigan On-Site Wastewater Disposal Conference, Kellogg Center, East Lansing. Call 989/275-4947 or visit msta.biz.

Jan. 11-12

Iowa Onsite Waste Water Association Conference, Iowa Events Center, Des Moines. Call Alice Vinsand at 515/225-1051 or visit www.iowwa.com.

Jan. 16-18

Missouri Smallflows Conference, University Plaza Hotel and Convention Center, Springfield. Call Tammy Trantham at 417/739-4100 or visit www.mosmallflows.org.

Jan. 17-18

Ohio Onsite Wastewater Association Conference and Trade Show, Hyatt Regency, Columbus. 866/843-4429; www.ohioonsite.org.

Jan. 19-20

Colorado Professionals for Onsite Wastewater Educational Conference, PPA Event Center, Denver. Visit www.cpow.net.

Jan. 23-24

Pennsylvania Decentralized Wastewater Conference and Trade Show, Lancaster Marriott and Conference Center, Lancaster. Call Stacy Henninger at 717/763-7762 or visit www.pdma.net.

Jan. 26-28

Alberta Onsite Wastewater Management Association Convention and Trade Show, Mayfield Inn and Convention Centre, Edmonton. 877/489-7471; www.aowma.com.

Jan. 27-28

Washington On-Site Sewage Association Conference, Yakima Conference Center, Yakima. Call John Thomas at 253/297-2837 or visit www.wossa.org.

Jan. 27-28

Wisconsin Onsite Water Recycling Association and Wisconsin Liquid Waste Carriers Association Joint Convention, Holiday Inn Hotel & Suites, Stevens Point. 800/377-6672; www.wowra.com.

Jan. 27-28

Washington Onsite Sewage Association Annual Conference, Yakima. Call 253/297-2837 or visit www.wossa.org.

Jan. 30-31

Indiana Onsite Wastewater Professional Association Annual Conference, Camp Camby, Indianapolis. 317/889-2382; www.iowpa.org.

Jan. 30-Feb. 1

Minnesota Onsite Wastewater Association Convention and Exhibitor Showcase, Sheraton South, Bloomington. 952/345-1145; mowacarla@aol.com.

Feb. 6-9

Onsite Wastewater Professionals of Illinois Annual Conference and Trade Show, Gateway Conference Center, Collinsville. Contact Steve Johnson at jswastewatersystems@mchsi.com.

Feb. 8-9

Utah Onsite Wastewater Association Conference. Location to be determined. 435/797-3155; <http://uwrl.usu.edu/partnerships/training/uowa.html>.

Feb. 10

Saskatchewan Onsite Wastewater Management Association Conference and Trade Show, Radisson Hotel and Conference Centre, Saskatoon. 877/489-7471; www.sowma.ca.

Feb. 10-11

Oregon Onsite Wastewater Association Conference, Seaside Civic and Convention Center, Seaside. 541/389-6692; www.o2wa.org.

Feb. 21-22

Texas Onsite Wastewater Association Conference, Waco Convention Center. Call Tim Taylor at 888/398-7188 or visit www.txowa.org.

Feb. 22-24

Kentucky Onsite Wastewater Association Conference, Hyatt Regency, Louisville. 270/314-7110; www.kentuckyonline.org.

Feb. 27-March 1

Pumper & Cleaner Environmental Expo International, Indianapolis, Ind. Call 866/933-2653 or visit www.pumpershow.com.

March 2-3

Onsite Wastewater Management Association of British Columbia, Coast Capri Convention Centre, Kelowna. Call Lesley Desjardins at 877/489-7471 or email lesleyd@shaw.ca.

TRAINING & EDUCATION

Georgia

The University of Georgia's College of Agriculture and Environmental Sciences is offering a Contractors and Pumpers course on:

- Feb. 1 – Contractors and Pumpers, Hazlehurst
- Feb. 7 – Contractors and Pumpers, Griffin
- Feb. 14 – Contractors and Pumpers, Griffin

Contact the Continuing Education Center at 770/229-3477 or conteduc@uga.edu.

Soil Science Inc. in Crawfordville, Ga., has Soils and the Landscape CEU-approved classes on:

- Feb. 1 – Americus
- Feb. 8 – Tifton
- Feb. 15 – Carrollton
- Feb. 22 – Buford
- Feb. 24 – Dublin

Call Thomas Macfie at 770/307-7311 or visit www.earthandwaterclasses.com.

Minnesota

The University of Minnesota Water Resources Center has these classes:

- Feb. 6-8 – Introduction to Onsite Systems, St. Cloud
 - Feb. 9-10 – Installing Onsite Systems, St. Cloud
 - Feb. 22-23 – Installer Continuing Education, Bemidji
 - Feb. 23 – Pipelayer, Bemidji
 - March 5-6 – General Continuing Education, Willmar
 - March 7-9 – Advanced Design and Inspection of Onsite Systems, Part 1, St. Cloud
 - March 14-16 – Maintaining Onsite Systems, Brainerd
 - March 19-21 – Introduction to Onsite Systems, Farmington
 - March 22-23 – Installing Onsite Systems, Farmington
 - March 27-28 – Solutions for Difficult Sites, St. Cloud
 - March 29-30 – Pumping/Maintainer Continuing Education, Brainerd
- Call Nick Haig at 800/322-8642 or visit www.septic.umn.edu.

Oregon

The Chemeketa Community College in Salem has these CEU classes:

- Feb. 15 – Installer
- Feb. 22-23 – Maintenance Operator

Call 503/399-5181 or visit www.chemeketa.edu/busprofession/ccbi/customizedtraining/deq/classes.html.

Washington

The Washington On-Site Sewage Association and Washington State Department of Health in cooperation with Washington State University are offering these certification courses at the training center in Puyallup unless stated otherwise:

- Feb. 8 – Electrical Control Panels, Spokane
- Feb. 15 – Safety Management for Small Business Owners
- Feb. 22 – Design: Matching System to Site Conditions, Mt. Vernon
- Feb. 29 – Maintenance Basics, Port Angeles
- March 7 – Troubleshooting and Repairs
- March 15 – Design of Subsurface Drip Systems, Bellingham
- March 28-29 – Exam Review for Designers

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

1 Complete Package

onsiteinstaller.com

cleaner.com
 pumper.com
 mswmag.com
 promonthly.com
 gomcmag.com
 tpomag.com
 wsomag.com
 pumpershow.com
 pumpertrader.com
 septicyellowpages.com
 sewerpages.com

COLE Publishing | 1.800.257.7222 | 715.546.3346

Scan the code with your smartphone.

ONSITE installer classifieds

Place your ad online at: www.onsiteinstaller.com

AERATORS

We sell Flagg-Air 340, Secoh, Gast and Medo Linear, FPZ and Gast Regenerative, Thomas and Gast Rotary Vane aerators, rebuild kits and alarms at wholesale prices. Septic Services, Inc. www.septicserv.com. 1-800-536-5564. (IM)

BLOWERS

VFC200P-5T, FUJI pumps, regenerative blowers, ring compressors. All models, accessories. Authorized distributor. Authorized parts and repair center. Call 888-227-9822. www.carymfg.com. (IBM)

BUCKET MACHINES

Tired of welding a plate across your bucket teeth? You need to try a Hall's Grade Blade. On in 60 Seconds off in 5. No tools required. Call 1-319-470-3033 or go to www.gradeblade.com, IA. (I04)

BUSINESSES WANTED

WANTED: Looking to acquire septic businesses in Massachusetts. All inquiries will be confidential. 508-868-7627. (IBM)

DRAINFIELD RESTORATION

Soil Shaker 2000. Universal skid steer attachment for drainfield restoration. Buy factory direct \$6,250. www.soilshaker.com or call 320-293-6644. (P1-12)

DO YOU OWN A TERRALIFT MACHINE? We have the beads in stock and we also have heavy duty 6' probes. Toll Free 1-888-252-1006 (PI01)

TERRALIFT FOR SALE: 1995 LT 11 model, recently rebuilt and painted. Very well maintained and runs great. \$10,500. Contact Brian 218-428-0391, MN. (PBM)

HAND TOOLS

Crust Busters - Portable, lightweight machine guaranteed to mix up septic tanks and grease traps! Save time and money! www.crustbusters.com, 1-888-878-2296. (IM)

PUMPS

Hydromatic, Zoeller, Liberty, ABS, Myers, Grinder and Effluent pumps. Lift station packages and high water alarms are also available. Septic Services, Inc. www.septicserv.com. 1-800-536-5564. (IM)

PUMPS -SUBMERSIBLE

Submersible and Progressive Cavity Pumps, replacement pump packages for Myers, Liberty, Delta, Environment-One, Goulds and others. Fiberglass pump stations. Simplex or duplex, residential, commercial, municipal. New pumps from 2 hp-100 hp. Factory pricing levels, not retail! We ship lower 48. American Pump Systems, 866-366-9545, Fax: 570-977-1207. (I03)

SEPTIC TRUCKS

1989 International septic truck. 4,000-gallon vacuum tank built in 1997. Fruitland pump, 2 years old, 400 hp Cummins motor with 100,000 miles on rebuilt motor. 4" inlet 6" dump. **GOOD WORKING TRUCK, VERY RELIABLE.** \$12,500. Call 302-436-5047. (P01)

1997 Freightliner L80, 3,500 tank, 9 speed AB, air-ride seat, tandem axle, nice truck, new paint, \$40,000 OBO. Call Barry @ 256-832-7867. (P01)

Mini, other low millage used trucks available. www.pumpertrucksales.com. Call Mike @ 303-478-4796 or JR. @ 720-253-8014, CO. (P01)

1998 Volvo WG64, quad axle, roll-off truck with new 4,500-gallon vacuum tank, new Fruitland 500 vac. pump with hyd. drive, full auto. tarp and 75K hoist. Cummins 400 hp. All new tires, brakes, in excellent condition, 80,000 GVW, working roll-offs and vacuum tank with the same truck. Must see. 617-909-9044. KLM Companies, MA. (P01)

SEPTIC TRUCKS

1993 International 4900 DT466, 6+ transmission, Fruitland pump, right angle gear drive, air brakes, 2,100-gallon tank with Armstrong digital gauge. Non-CDL, 226K miles. \$17,500. 409-313-0327, dkptoo@aol.com, TX. (P01)

1999 International DT466, 6 speed, 2,500 gallons, stainless hose trays, Jurop PNR82D, new tires, 245,000 miles. \$29,500. Call 1-609-859-3629. (P01)

1997 F800, 210 hp, 5.9 Cummins 6 speed, 2,500-gallon Transway tank, new T.S.I. 250 pump in 2009, good tires, runs, pumps, and drives great, does need painting. \$26,500 OBO. Call 315-778-5371, NY. (P01)

1999 International 4900 DT466, non-CDL, 230 hp, 6 speed with lo-hole, new 1,850 gallon Colt tank, new PN84 Jurop pump. www.pumpertrucksales.com. Call Mike @ 303-478-4796 or JR. @ 720-253-8014, CO. (P01)

2006 Chev 8500, 2,500 tank, 6 speed, Masport vac pump, 89,000 miles, AC, AB, air-ride seat, nice truck, \$48,000 OBO. Call Barry @ 256-832-7867, AL. (P01)

TRUCKS, MISC.

2003 Chevy Express, 140,000 miles, 2000 Chevy 630 van, 130,000+/- miles on drive train with newer diesel engine, both equip with pipe racks and interior shelving. \$3,000 each or \$5,500 for both. Call 1-203-838-7000, CT. (P01)

It's *Quick and Secure!*

www.onsiteinstaller.com

SUBMIT YOUR CLASSIFIED AD NOW!!

Just click on "Classifieds" — "Place a Classified Ad"

Fill in the online form!

ONSITE installer

View Latest Issue »

SUBSCRIBE NOW



Google Custom Search

NEW EQUIPMENT

CLASSIFIEDS

ARTICLES

ADVERTISING

INTERACT

SUBSCRIBE

Septic System Problems? ->

www.Aero-Stream.com

My Septic Guy Told Me I Needed A New

Inventory Blowout

www.YesFleet.com

Yes Equipment & Services Equipment

Ads by Google

BUSINESS FOR SALE

VIDEO INSPECTION • MUNICIPAL SEWER CLEANING
PHILADELPHIA AREA • GREAT REVENUE
ASKING \$330,000 - TURN-KEY BUSINESS

Rates: \$25 minimum charge (up to 20 words) - \$1.00 per each additional word. Include a photo for an additional \$125.



Beyond Digging Holes
Cover Story



Indy 2012

Education Day: MON, FEB 27, 2012

Exhibits Open: TUES, FEB 28-THURS, MARCH 1, 2012

INDIANA CONVENTION CENTER
INDIANAPOLIS, INDIANA

Scan this tag for more information



Get the free mobile app at
<http://gettag.mobi>

visitindy.com/pumpershow



onsiteinstaller.com

- > Classifieds
- > Used Equipment
- > E-zines
- > Product Categories



Septic Drainer Booth 9006

New Drainfield Soil Restorative works on the soil NOT THE TANK!

Sodium is the problem!
We drive the sodium out of the soil!

RCS II, INC.
518-812-0000
septicdrainer.com

MARKETPLACE advertising



THE DIRTY BIRD Booth 5020
Septic Vent Concealer™

Converts your ugly septic vent into an attractive bird bath and controls odor too!

Installs in 3 Easy Steps!

866.968.9668 781.793.9334
www.thedirtybird.com



Keep Onsite Installer Coming!

It's **FREE** and worth a great deal more.



Scan the code with your smart-phone to go the Onsite Installer subscription page

Take a few minutes and renew today
www.OnsiteInstaller.com



Pagoda™
Brand Products

Septic Vents
Odor Filters

MADE IN USA

1-888-864-1468
Pagoda Vent Company
www.pagodavent.com

Easy Install | Durable | Natural Landscape Colors | Heights 1' to 14'



The Most Durable & Economical Septic Lid

- Durable & Lightweight Polymer
- WILL NOT Crack Like Concrete!
- Easier to Handle & Transport
- 12", 18" & 24" Available
- Easy Installation
- Optional Sand Filled

800.868.0973



SIMPLY BETTER™
JET INC.™
Pioneers in Advanced Wastewater Treatment since 1955™

**Better For Precasting
Better For Installation
Better For Service**

Booth 120 1.800.321.6960
www.jetincorp.com
email@jetincorp.com



THE SHADDIX COMPANY

1-1000 gal re-furbished septic tank form \$7,000

1- 2002 Non-CDL Freightliner FL70
1- 2004 Freightliner FL70 w/tag axle

We have in stock and can outfit either truck with an 18' new or an 18' used hydraulic set bed
We can also build and install on either truck a custom built set bed per your requirements

Call Tommy for Details!
256-338-4987



The Best Septic Vent Filter Your Money Can Buy

More Carbon than other filters
Patented Cross Flow Design
Wicks Away Moisture

IndustrialOdorControl.com
866-NO-STINK (667-8465)
973-846-7817

Simple Solutions DISTRIBUTING LLC

Effluent Filters

800 GPD - 10,000 GPD



POLYLOK™ **BEST TECHNOLOGY**

STEP System



Low Profile Filter Basin



Odor Control

Solutions for venting & removing odor from septic systems.



6" Poly-Air™
Coming Soon!

15" & 30"
Covers
Coming Soon!

Poly-Air™
Activated Carbon Vent Cover
6", 4", 3", 2" & 1.5"

Activated Carbon Vented Covers
15", 18", 20", 24" & 30"

Extend & Lok™



1 Before (Cast Iron Pipe)

2 After (4" Extend & Lok)

3 With PL-68 Filter & Tee

EASY AS 1 2 3

4" & 3"

Alarms & Switches



Pressure Filter & UV Disinfection Unit



Covers & Grates



12", 15" & 30"
Covers
Coming Soon!

18" & 24" Heavy Duty Covers
and Grates for corrugated /
ribbed pipe.

Pumps



Hydroshields

360° equal distribution.



1", 1 1/4" & 1 1/2"

New Size!
1", 1.5" & 2"

Orifice Diffusers



- Fits securely onto either 3/4"-1" pipe or 1 1/4"-2" pipe.
- Can be installed facing up or down.
- 360° equal flow distribution with impeller.

Septic Tank Risers & Covers



The only Riser on the market with factory installed gaskets.