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By Jim Kneiszel, Editor

# **GOING BEYOND THE PUMP-OUT**

f you attended the Pumper & Cleaner Environmental Expo International at the close of February, it's time to pause, take a deep breath, and start capitalizing on the knowledge you gained in Indianapolis as you prepare for the busy 2012 season.

Many lessons learned during Expo Education Day this year focused on onsite septic system construction, operation and maintenance, editorial themes for this issue of *Pumper*. Because of a growing inventory of aging septic systems and tightening effluent regulations across the country, onsite system construction and maintenance are especially timely topics.

Whether pumping is your sole stock in trade or you also install and repair systems, I'm confident you're going to hear more about maintenance contracts, point-of-sale inspections and regulatory changes in the months and years ahead. So we want to piggyback on the information you gathered at the Expo with helpful content about the system beyond the tank you pump.



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Here's a rundown on a few stories in this issue meant to raise awareness about septic system construction and care:

## **Onsite product roundup**

From septic tanks to outlet filters to lids and risers, our product roundup this month recaps industry offerings you'll need to repair, replace or refresh a customer's treatment system. If you saw many of these products at the Pumper & Cleaner Expo, this will be a handy reminder of ways you can enhance the performance of an older system, replace a deteriorating original part with something modern and long-lasting, or add to the safety and convenient future service of a system. A certain percentage of the tanks you open this summer will need some sort of upgrade. Our roundup list is aimed at helping you stock the right parts for the job.

# Would you like a maintenance contract with that system?

New York-based pumping company **Charlton Septic Service** rolls up the revenue by offering to install outlet filters and then come back to clean and inspect the filters every six months. It's a menu offering veteran contractors **Kevin** and **Wendy Loukes** added to both boost profits and help customers keep their systems humming along.

Kevin Loukes also has added real estate inspection expertise, and those inspections now make up about 10 percent of Charlton Septic's billings. "We get a lot of repeat business from inspections. We have established many relationships with local real estate brokers who refer us," Loukes told writer **Ken Wysocky** in the Contractor Profile story. "Once we complete an inspection, nine out of 10 times the new homeowners will call us back for a maintenance pumping or other repairs."

# A Canadian town embraces system inspections

In the Canadian town of Huron-Kinloss, Ontario, waterfront residents were receptive to a \$55 increase in their local taxes to pay for periodic septic system inspections. In our *Pumper Interview* story, local environmental planner **Matt Pearson** explains the successful program to writer **Scottie Dayton**. The town works with five pumpers to record repair and replacement data, and enjoys an excellent response rate from homeowners. In 2011, 75 percent of residents contacted made appointments for the inspections. In the first four years of the program, 4 percent of the systems were found to need replacement.

"After the inspection, we mail a package with educational materials and an aerial photo showing the location of the onsite system," Pearson says. "Homeowners really like that."





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# In This Issue

### March 2012

# ARTICLES

12 **Keep 'Em Happy** - Ken Wysocky

Whether it's remediation over replacement, carefree maintenance contracts or one-stop shopping, Charlton Septic Service zeroes in on customer satisfaction solutions. On the cover: owners Kevin and Wendy Loukes pose in front of their 2004 Peterbilt service truck from New Progress LLC. (Photo by Bruce Squiers)



# **Reading Between the Lines: Going Beyond** the Pump-out

- Jim Kneiszel

# **Rules & Regs: Florida Legislators Propose Local County Control of Mandatory Septic System Inspections**

- Scottie Dayton

# **Building the Business: The Data Dilemma**

Whether it's carrying a portable hard drive from the shop to your house or jumping on the 'cloud,' every small business needs to find a practical way to save vital financial and other business information.

- David Steinkraus

# **A Sunny Outlook**

Brightly colored branding efforts and an emphasis on customer education help Indiana's Sunset Septic build a big fan base.

- Ken Wysocky

# 42

# **Case Studies: Up To the Challenge**

Advanced onsite industry products restore systems, protect the environment.

- Ed Wodalski

# **Legal Advisor: Is Your Dress Code Legal?**

Follow these tips to craft rules about employee appearance that stand up to scrutiny.

- Fred S. Steingold

# After Hours: Siren Song

North Carolina pumper Joshua Branscome helps save lives in his spare time ... as a full-time paramedic.

- Mary Shafer

### **Pumper Interview: Successfully Mandating** Inspections

To improve Lake Huron water quality, residents of a Canadian town accept a new tax and cooperate fully with required septic system checks and maintenance.

- Scottie Dayton

# **Product Roundup: Septic System Solutions**

Your next inspection might turn up problems that require tank replacement, drainfield restoration or other system maintenance. These products can help you satisfy customers and build profit.

- Ed Wodalski

# 74

# Overheard Online: The Working End of the Hose

Do you simply drop the hose into a tank or use a special fitting to keep your suction system clean and working efficiently?

# 92

# It's All About Water

The 2012 NOWRA Conference focuses on nontraditional water and wastewater management and New England onsite issues.

### **NSF Establishes Task Group to Address Filter Concerns**

- Theo Terry

# **REGULAR FEATURES**

### 68

### **Money Manager: Tax Time Tips**

Follow a financial roadmap for navigating the evergrowing list of IRS rules to avoid a dreaded audit and preserve the most income.

- Patrick Astre

# **Classy Truck of the Month**

We feature H & R Complete Inc., Newman Lake, Wash.

# 80

# **Septic System Answer Man: Media Filter**

A comprehensive system evaluation is sometimes required to get to the bottom of a poorly performing sand filter.

- Jim Anderson

### 82

**Industry News** 

### 84

### **Product News**

# **NAWT News: Excellence in Service Award Winner Named**

- Courtney Peterson

**Association News, Calendar, Training & Education** 

# Coming in APRIL

### SPECIAL ISSUE: **Expo Recap/Portable Sanitation**

- Contractor Profile: Young Canadian pumper hits portable sanitation
- Product Roundup: The big reveal at the Pumper & Cleaner Expo



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Office hours 7:30 a.m.-5:00 p.m. Central Time, Monday - Friday

SUBSCRIPTION INFORMATION: A one year (12 issue) subscription to Pumper in the contiguous 48 U.S. states costs \$16 (24 issues for \$26; 36 issues for \$36). Subscriptions to Canada or Mexico cost \$28 per year (24 issues for \$54). Subscriptions to all other foreign countries cost \$150 per year (\$290 for two years). Subscribers are guaranteed monthly delivery of the magazine. To subscribe, send company name, mailing address, phone number and check or money order (U.S. funds payable to COLE Publishing Inc.) to the address above. MasterCard, VISA and Discover are also accepted. Supply credit card information with your subscription order.

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CIRCULATION: 2011 circulation averaged 25,185 copies per month. This figure includes all circulation regions (nationwide) and international distribution.

REPRINTS AND BACK ISSUES: Visit www.pumper.com/order/reprints 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.

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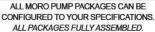


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# ADVERTISER

March index....<sup>2012</sup> 2012



# ABBOTTRUBBER

Abbott Rubber Co., Inc. ..... 10

# **ABERNETHY**

Abernethy Welding & Repair..86 Ace Roto-Mold......40



Acro Trailer Company......85

# MACHINERY /

Amazing Machinery, Inc. ....90

# ANT

AMT Pump (American Machine & Tool Co.)......79



Aqua Ben Corporation......30



Aqua-Zyme Disposal Sys...75

# arcan

Arcan Enterprises, Inc......90

# RCTIC BLASTER

Arctic Blasters, Inc.....91 Armal, Inc. .....37

# ARMSTRONG EQUIPMENT INC.

Armstrong Equipment.....9 ARTS

Art's Truck & Equipment ..... 92



& Hydraulics, Inc.....24



Badger Vacuum Trucks .....91



Bandlock Corp......91 Banjo Corp......64

# BEST ENTERPRISES

Best Enterprises, Inc. ......45 Bio-Microbics, Inc. .....20

# √ Seal-R

Brenlin Company, Inc. ......85



BRUDON Air Vac/Kay Intl...76

Cam Spray.....54



Cape Cod Biochemical Co. 52



CEI - Chandler Equip., Inc., 19

# chempace

Chempace Corporation...66, 78

# (2) CLARUS.

Clarus Environmental ......71



Clear Computing, Inc.....30

Comforts of Home

Comforts of Home Services..72



Schmitz Bros., LLC......77

# DA

Deal Associates, Inc......83

Ecological Laboratories, Inc..72

E

# ELASTEE ericanMarine

Elastec/American Marine....72

# wallenstein

Elmira Machine/Wallenstein Vacuum Pumps ......58

# ENVIROTUB

Envirotub ..... Tresh &

Erickson Tank & Pump ......72

# SOLUTIONS

F. S. Solutions.....13



Fergus Power Pump, Inc. .... 69 Five Peaks Technology......43



Flo Trend Systems, Inc......70



Fruitland Tool & Mfg.....81

GapVax, Inc.....41 Global Vacuum Systems ....81

Breen Way Products

Green Way Products by PolyPortables, Inc..47

Hannay Reels Hannay Reels.....76

\*Hedstrom

Hedstrom Plastics......92

I IMPERIAL INDUSTRIES INCORPORATED

Imperial Industries, Inc. .....30



In the Round Dewatering....46

# KeeVac

KeeVac Industries, Inc......70



Kentucky Tank, Inc. .....24 Key Commercial Corp. ......93 Kroy Industries.....20

LANE'S VACUUM TANK, INC. Lane's Vacuum Tank, Inc....94



Lely Manufacturing, Inc. .....79

### **Lenzyme**

Lenzyme, Inc. .....4 Liberty Pumps......39 Liquid Waste Industries ......66

# Longhorn

Longhorn Tank & Trailer .....77

March

Marsh Industrial ......38

Masport Masport, Inc.....

# **EXPLORER**McKee Technologies, Inc./

Explorer Trailers/ ......58



Mid-State Tank Co., Inc. .... 93



Milwaukee Rubber Prod. .... 52 Money in Motion .....26



Moro USA, Inc. .....7

Motor Protection Electronics . 11 LELY

MTC Tank & Waste Solutions..73

NVE National Vacuum Equipment 73

NAWT, Inc.....85, 88 Norweco, Inc.....61 MORWESCO

Norwesco, Inc......33

Nuhn Industries LTD.....54

pikrite

Pik Rite, Inc. .....75

PolyJohn Enterprises...... 107

POLYLOK.

Polylok/Zabel.....106

POLYPORTABLES PolyPortables, Inc.....55

Pressure Lift Corporation....77

Presby Environmental ......69

**PRESVAC** Presvac Systems, Ltd...... 108

progress vactruck Progress Tank......10

RCS II, Inc. .....54

RID

RID-X® Septic System Treatment ......27

Summit

Ritam Technologies LP......74 Robinson Septic Service Inc.) Robinson Septic Service ....82

Roto Solution:

RotoSolutions, Inc. .....79



Rush Refuse Systems ......67



Safe-T-Fresh.....59



Septic Services, Inc. Septic Services, Inc......66

SIM/TECH FILTER, INC.....38 THE SLIDE IN WAREHOUSE

Slide-In Warehouse ......64

Southwest Products Corp...89

Specialty B Specialty B Sales......76

Subsurface Locators, Inc....28 Super Products

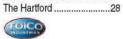
Super Products......35 SURCO Surco Products......15

Sweet Septic Systems......90

T&T Tools, Inc......40



TankTec TankTec .....17



Toico Industries......46

Transport Truck Sales, Inc..25

Transway Systems, Inc......5 TREMCAR U.S.A. INC.

Tremcar, Inc......22

Tri-State Tank ......83 TSI

TSI Tank Services, Inc..57, 95 METUF TITE

Tuf-Tite, Inc.....23 VAC-CON

Vac-Con, Inc...... ecutruy Vacutrux Limited ......58

VARCO VAR Co.....29

Water Cannon, Inc.....83

Wee Engineer, Inc. .....86



Midwest Supplement (after page 74)

# 1 dvance

Advance Pump & Equip......2



PAT'S PUMP +



R.A. Ross & Associates NE..8 (-RIDER-)

Rider Agri Sales & Svcs......7

T-Line Equipment, Inc.



### Eastern Supplement

(after page74)

1 dvance Advance Pump & Equip......3

 $(\mathbf{A_I})$ Andert, Inc. .....6 CRESCENT TANK MFG.

Crescent Tank Mfg.....2 MANCHESTER 100 HOSE & COUPLING

Manchester Hose & Coupling. 3

X I amount Marengo Fabricated Steel .... 1

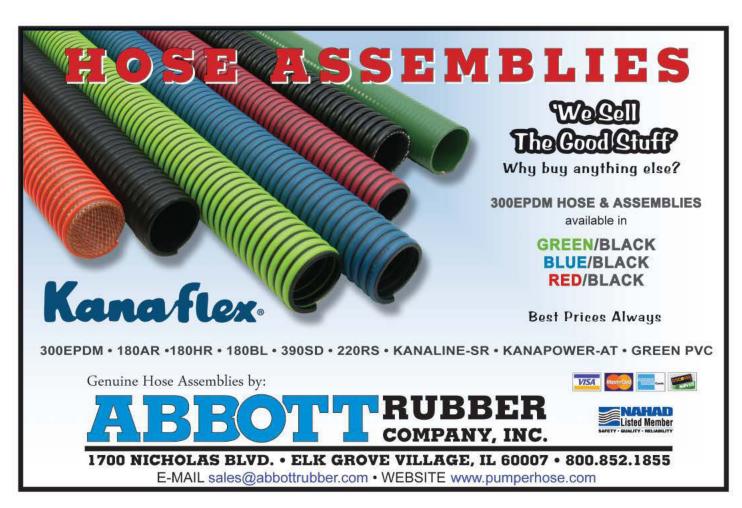
PUMP+

Pat's Pump & Blower.....6

R.A. Ross & Associates NE..2 V&H Inc. .....2

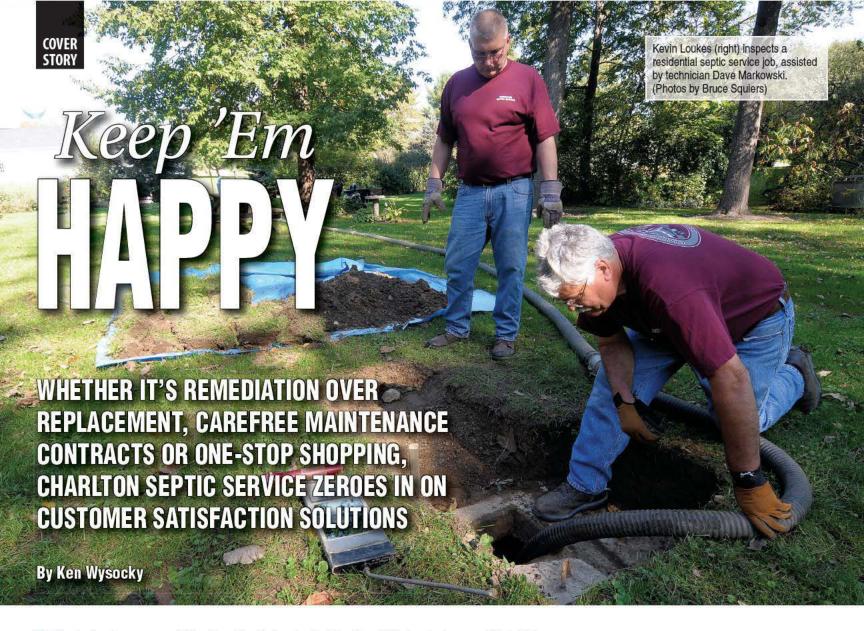
VSE Vacuum Sales, Inc.....5











evin Loukes, owner of Charlton Septic Service in Charlton, N.Y., is a study in resourcefulness during challenging economic times.

Since Kevin and his wife, Wendy, founded the company in 2004, they've increased business volume by capitalizing on larger regulatory and economic forces to generate new income streams. At the same time, they rely on new technology and Kevin's extensive knowledge of trucks to improve productivity – and profit margins.

A good example is the company's emphasis on septic-system maintenance, repair and rejuvenation. In New York, regulations require engineers to design all new or replacement systems, which can easily add more than \$1,000 to the total cost, Kevin says. In a struggling economy, budget-strapped customers seek a cost-effective alternative. So the Loukes invested in a Terralift soil-restoration machine, made by Terralift International (now AerraTech LLC), to rejuvenate drainfields.

"A new drainfield will last longer than a Terralift rejuvenation," Kevin says. "From what I've seen, you get maybe five to eight more years of life, and a replacement will last 15 to 20 years. But in some applications, it's a good stop-gap measure ... because people can't afford replacements right now."

Charlton also relies on chemical rejuvenation. Kevin uses CCLS from Cape Cod Biochemical Co. to boost natural bacteria and enzymes in an effort to biologically break down organic buildup that can clog systems and create odors. "Again, it's cheaper than replacing a system,"

he says. "But all the parameters have to be right: The distribution box must be in good shape, the system needs to be big enough to withstand the amount of water people are putting into the system, and so forth."



# VETERAN PUMPER

Kevin is a veteran pumper who started in the business by working for his father, Charles, who established Odorless Sanitary Cleaners in Charlton in 1954. After Kevin graduated from high school, he held several mechanical-related jobs before joining the family business full time in 1971. He left in 1976, then came back to run the business after his father died in 1978.

"I went back to run the business so my mother would have an income and could raise my two younger brothers," Kevin explains.

(continued)





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Wendy also worked in the family business, serving as the company's office manager.

In 1998, Kevin left the family business. Then re-entered the portable sanitation industry by founding Charlton Septic in 2004, buying a new Peterbilt truck and six portable restrooms from PolyJohn Enterprises. The company now has 26 Fleet model restrooms from PolyJohn. Currently, the company's business volume breaks down to 50 percent septic pumping, 30 percent septic system installations and 20 percent portable restrooms (mostly seasonal special events).

"I like to think I was doing something smart," Kevin says of his return to the industry. "I tried to work for someone else and wasn't happy doing it. So I decided to get back into the septic business."

The transition back to the field was fairly painless, Wendy notes. "Kevin has been doing this since the 1970s," she says. "Our old customers knew him and trusted his judgment. The reception was very gratifying.

"Kevin is a perfectionist," she adds. "He'll do less (work) in a day in order to spend more time with a customer until they're satisfied. He has a lot of knowledge – learned a lot from his father. If a customer has a bad system, we tell them. If we can repair it, we do. We do what's best for our customers."

### IN THE GARAGE

Over the years, Kevin has learned the value of good equipment that minimizes downtime and improves productivity. "In this line of business, if your truck breaks down and a customer calls, you need to be able to provide the service – or you can lose the customer," he explains.

Well-maintained equipment also helps the company attract and retain customers because it can provide service in emergencies, Wendy notes.

> "You don't want to look like you run a shabby business," she says. "When people see well-maintained equipment, they know you will do a good job."

> For septic pumping, Charlton Septic runs a 2004 Peterbilt 330 with a 2,800-gallon aluminum tank from Progress LLC. For cleaning restrooms, the company relies on a 1995 F-150 Ford pickup with a custom-made, L-shaped 150-gallon wastewater tank and a removable 65-gallon plastic water tank. The company also owns a portable waterjetter made by O'Brien (a brand owned by Hi-Vac Corporation), which Kevin says adds value to his services.

"Most times, if the line is plugged from toilet paper or a small sag in the line, we can clean it out with a tape snake," he explains. "But if we have to go in and the line is closing itself up, or has tree roots in it, then we use the jetter. We use it a lot to clean out heavy material in drainfields. We put the jetter in the drainfield lines and pull heavy materials back into the box, where we pump it into the truck.

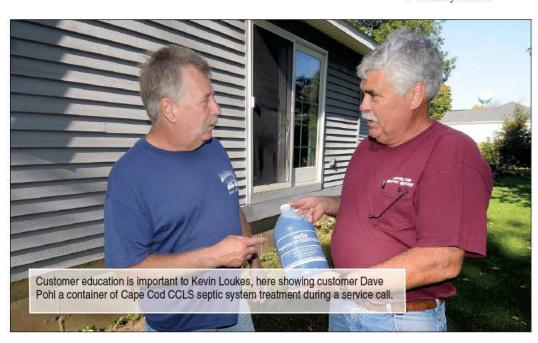
"We also use the jetter to pressure wash toilets," he continues. "It provides us with more revenue because it allows us to clean portable toilets quickly and efficiently."

Charlton Septic also owns a Ford LN 7000 dump truck with a seven-yard dump body and a Kobelco excavator.

### SPECC'D FOR SUCCESS

Kevin prefers Peterbilt trucks for reliability, cab visibility and driver-friendly features. He specs his trucks with larger, heavy-duty components that can endure a lot of wear and tear.

"On the Peterbilt, for example, I ordered an eight-speed with a double-low hole in the transmission," he says. "You can hit a switch









"KEVIN IS A PERFECTIONIST. HE'LL DO LESS (WORK)
IN A DAY IN ORDER TO SPEND MORE TIME WITH
A CUSTOMER UNTIL THEY'RE SATISFIED. IF A
CUSTOMER HAS A BAD SYSTEM, WE TELL THEM.
IF WE CAN REPAIR IT, WE DO. WE DO WHAT'S
BEST FOR OUR CUSTOMERS."

Wendy Loukes

and it goes into deep (gear) reduction, which is like a super-low gear. It makes it easier to back into a driveway because you don't have to worry about riding the clutch.

"But by putting in a heavy-duty transmission, I also needed a heavy-duty clutch and a heavy-duty driveshaft. But I didn't mind because I knew it would make the truck more efficient. If you're in a tight spot, the truck moves very easy without slipping the clutch."

The Peterbilt also features a full-locking rear axle, which helps avoid a real productivity killer: getting stuck in winter snow. "If I back into a driveway with snow, the heat from the tires melts the snow,

which can lead to getting stuck because one wheel drives and the other one doesn't," he says. "With the full-locking rear, I've never gotten stuck."

Kevin also dresses up his truck with aluminum wheels, fuel tanks, battery box and air tanks, plus two chrome stacks.

"It's a sharp-looking truck," he says. "I always keep it clean because that reflects on

our business. First impressions mean a lot. It's a very noticeable truck – a rolling billboard. It's not unusual for me to get a phone call from someone who's following me while I'm driving – it reminds them they need to get their tank pumped."

# **ROLL UP THE REVENUE**

The couple benefits from ancillary services that provide additional revenue streams. For example, because more and more engineers are

(continued)

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designing systems that require outlet filters, Charlton Septic promotes service agreements to periodically clean the filters, which extends drainfield life.

"The filters prevent floating debris in the tank from getting into the distribution box - things like lint, hair or toilet paper that doesn't break down," Kevin says. "Sometimes they need cleaning every three months, but some can go as long as a year. We try to set them up for cleaning every six months.

"It's more of a convenience for the customer, but at \$60 for a filter cleaning, it does generate additional revenue – and helps customers keep us in mind when they need a pumping. We don't have to make a special trip to do it, either. When we're going to clean a portable restroom in an area, we try to be strategic about routing so we can swing in and clean a filter. too."

Kevin says older septic systems can be retrofitted with filters by installing a filter housing. He uses filters and housings made by Polylok Inc.

"Some customers do it, and some don't because they're reluctant to spend the money," he notes. "But it's not expensive. If I need to replace the outlet baffle, I replace it with a filter housing. They don't cost any more money than making them out of pipe. But when you glue a pipe to a tee, it sometimes falls off, while the filter housing is all one piece, so it can't fall off."

Kevin says the company also benefits from a newer regulation that requires system inspections whenever a home is sold. During the last several years, Charlton has been doing



Wendy Loukes handles appointments in the office, while Kevin Loukes works in the field.

"FIRST IMPRESSIONS MEAN A LOT. IT'S A VERY NOTICEABLE TRUCK – A ROLLING BILLBOARD. IT'S NOT UNUSUAL FOR ME TO GET A PHONE CALL FROM SOMEONE WHO'S FOLLOWING ME WHILE I'M DRIVING – IT REMINDS THEM THEY NEED TO GET THEIR TANK PUMPED."

Kevin Loukes

# **Customized Truck Offers Service Flexibility**

When Kevin and Wendy Loukes fired up their new business, Charlton Septic Service, in 2004, they faced a challenge familiar to many pumpers starting out with a lone vacuum rig: Using a septic service truck to run a portable sanitation route was less than ideal, but the restroom side of the business wasn't large enough to justify buying a second truck.

The solution? Kevin worked with Crescent Tank Mfg. to outfit his 1995 Ford F-150 pickup truck with a custommade, L-shaped, 150-gallon steel waste tank. A 65-gallon plastic freshwater tank nests snugly into the L-shaped waste tank, but can be removed to provide storage space so he can use the truck for septic system repair work.

"I didn't want a truck devoted to just restrooms," he says. "I wanted to use it for repair work, too. So at the last (Pumper & Cleaner Environmental Expo International), I talked to the people at Crescent because they make square tanks.

"It's easy to convert the truck from restroom service to a repair vehicle," he

notes. "I just unhook a strap and pull out the water tank, which leaves a 4-squarefoot area for tools and other equipment." While Kevin sees opportunities to expand the portable sanitation business, he says there's currently not enough volume to warrant buying a vacuum truck devoted to just servicing restrooms.

"This works out perfectly," he says of the rig, which uses a pump made by Masport Inc. "I'm very happy with it. It basically saved us the expense of buying two vehicles."

more home inspections, which do not require a license and now generate about 10 percent of the company's septic service gross revenue.

Inspections also help Charlton obtain valuable name exposure that leads to new customers.

"Just the other day, I pumped out a tank that I inspected when the customer bought the home," he says. "We get a lot of repeat business from inspections. We have established many relationships with local real estate brokers who refer us. Once we complete an inspection, nine out of 10 times the new homeowners will call us back for a maintenance pumping or other repairs."

### **BRIGHT OUTLOOK**

Kevin is upbeat about the future, as evidenced by the company's new 2,500-square-foot shop. He sees opportunities for expanding the company's restroom business, which would further diversify his services. But no matter how big the company gets, one thing will remain constant: an overall emphasis on customer service and honesty.

"Word-of-mouth business is very crucial," Kevin notes. "One customer who's dissatisfied with you can offset 10 people who like you. So you do your best to make sure the customer is always happy."

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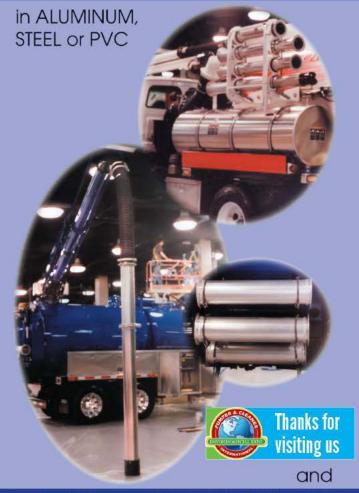
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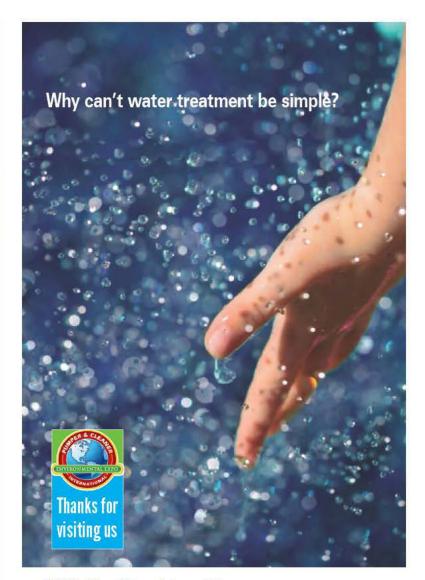


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By Scottie Dayton

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

# Florida Legislators Propose Local County **Control of Mandatory Septic System Inspections**

ep. Chris Dorworth (R-Lake Mary) introduced legislation to repeal mandatory five-year septic tank inspections and give local governments power to regulate them. The bill uses the current statute's mandatory inspections, including who would be allowed to do them, how often they are required, and price caps for each step of the process.

It also makes the measures optional at the discretion of county commissions and allows county health departments to inspect tanks with possible compliance issues. Rep. Marti Coley (R-Marianna), who is sponsoring legislation that would repeal the septic tank inspections entirely, was a primary co-sponsor on Dorworth's bill.

Sen. Charles Dean (R-Inverness) filed the Onsite Sewage Treatment and Disposal Systems bill that would transfer onsite permits with the title of the property, provide circumstances when systems are not considered abandoned, assure the system's validity if rules change before final approval of the system, and require an upgrade only if a bedroom is added to a singlefamily home. If passed, the act would take effect July 1.

### **New Jersey**

The state Department of Environmental Protection rewrote legislation passed in 2008 that limits onsite systems and sewers on more than 300,000 acres. Ray Cantor, chief adviser for the DEP, stated that the rules were flawed and could not be implemented.

An overhaul of the solid waste and recycling code by the State Commission of Investigation to combat organized crime infiltration could require pumpers to undergo an extensive criminal background check before obtaining or renewing their licenses.

### **Rhode Island**

Coastal homeowners wishing to extend a wall or add a breezeway will no longer be required to install denitrification units. The state Department of Environmental Management rewrote the rule and suspended the requirement for three years. Only renovations costing 50 percent or more of the assessed value of a home - or a septic system failure - would trigger the requirement to install a denitrification system.

The agency also allowed alternative denitrifying technologies permitted in other states to be used in Rhode Island. A third rule change would allow up to 10 pilot installations of each new nitrogen reduction technology. The agency also plans to re-file legislation requiring onsite upgrades as part of property transfers.







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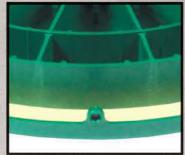
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# The Data Dilemma



# WHETHER IT'S CARRYING A PORTABLE HARD DRIVE FROM THE SHOP TO YOUR HOUSE OR JUMPING ON THE 'CLOUD,' EVERY SMALL BUSINESS NEEDS TO FIND A PRACTICAL WAY TO SAVE VITAL FINANCIAL AND OTHER BUSINESS INFORMATION

**By David Steinkraus** 

omputers used to be a convenient aid to business. Now they're a necessity, saving a great deal of time and money by allowing us to quickly communicate and handle large amounts of information. Think about all the critical business information your computer stores: customer lists, billing information perhaps including credit card numbers, work orders, your financial accounts, and that list of people who still owe you money. What would you do if your computer crashes, is damaged in a fire or is stolen?

You can see the need to have backup copies of all your business information. A backup copy ensures your business will remain operational after a disaster instead of being knocked down for weeks while you try to reconstruct records.

There is no single solution to backing up information because individual situations are too different. You may have only one computer in a home

office, while another business may have two trucks carrying laptops and a third computer back in the shop. Despite these differences, there are general points to consider.

ONLINE CLOUD STORAGE HAS GREAT BENEFITS. BUT THE SILVER CLOUD HAS A DARK LINING. AMONG COMPUTER SECURITY EXPERTS, THE CONSENSUS IS INFORMATION STORED ONLINE WILL BE COMPROMISED AT SOME POINT.

### **USING HARD DRIVES**

The simplest solution is an external hard drive with a cost of about \$100. Keep your business documents in a single folder on your computer. At the end of every day, drag the folder onto the external hard drive, click the button to replace all files, then unplug the palm-sized drive and take it home. If your shop and computer are destroyed by a tornado or fire, all your information is safe on the hard drive. If your house is damaged, information is secure on your office computer.

There are three problems with this method. First, backups must be done manually. Forget to make one, and your information is at risk. Second, this won't help if your computer crashes. If your machine crashes just after lunch, before you've done the daily backup, you lose the billing information input during the morning. Third, if the business folder on your computer is large – for example if it contains a bunch of pictures for brochures – that daily backup can take some time.

The next step up is dedicated backup software. You don't have to remember to do the backups; they're done for you automatically and at set intervals, such as every hour. Also, backup software typically copies only files that have changed so there's little time involved.

Newer versions of the Windows and Macintosh operating systems come with basic backup software built in. These and some third-party software allow you to encrypt information. In other words, the information is scrambled and can be read only by people who know the password. The advantage is that a thief who breaks into your shop or house and steals your backup disk cannot simply plug it into another computer and read the information on it. Forget that encryption password, however, and your backup drive is a nice doorstop.

The problem with external drives is that you're still vulnerable to loss of information even if you store that backup disk in a fireproof box. If a fire breaks out in your shop in the middle of the day, a backup drive connected to your computer will be lost. A tornado may take out your shop, your house,

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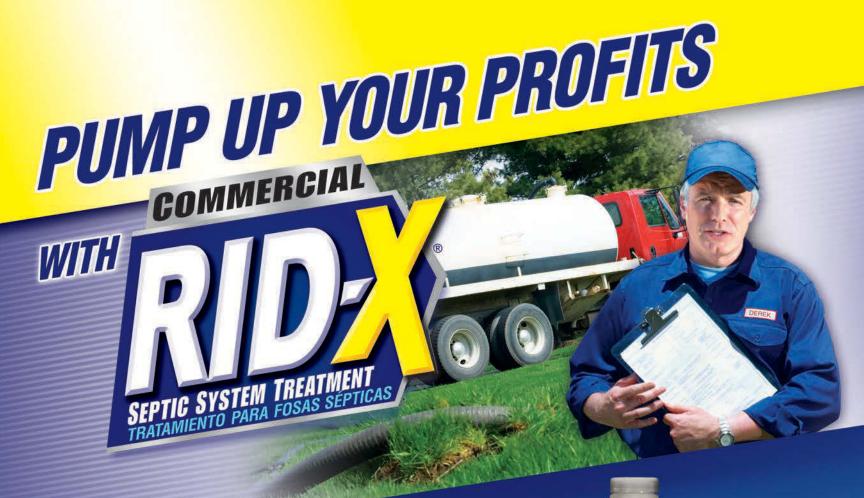


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and also toss that fireproof box into the next county. You could settle this with two backup disks stored apart from each other. One day you use one disk, and the next day the other, and you are never more than a day behind.

### ON THE CLOUD

A better solution would be to store your data very far away, for example on the East Coast if you're in the Midwest. This is the idea behind online backup services generally referred to as "the cloud." The cloud is nothing more than a large array of computers located in a secure spot and to which you connect to using the Internet. In fact, if you use an online email service such as Gmail or Yahoo, you're already using the cloud. Your messages are stored in a huge data center, and you call up messages on your computer or phone as needed.

Companies such as Mozy (www.mozy.com), Carbonite (www. carbonite.com) and IDrive (www.idrive.com) offer cloud storage. For the simplest home user they charge \$5 to \$10 a month for 125 or 150 gigabytes of data. Business plans cost more. In the case of Mozy you buy a license for each computer for \$3.95 per month and also pay 50 cents per gigabyte of data. An IDrive business plan allows you to back up an unlimited number of computers with 500 gigabytes of storage running \$49.95 monthly or \$499.50 annually.

These companies typically offer custom backup software you install on your computer to find files that have changed and upload them to the remote storage center. To deter theft, make sure your information will be encrypted when sent to and stored on a company's remote servers. Also, expect the initial backup to take quite a while as your data is uploaded over the Internet.

Online cloud storage has great benefits. You don't have to worry about backup drive failure or replacement. There is also this futuristic possibility: Information entered into a laptop or iPad in the truck can be available moments later to your office staff.

But the silver cloud has a dark lining. Among computer security experts, the consensus is information stored online will be compromised at some point. In the first few months of 2011, computer thieves stole personal information from Sony Corp. and from a company called Epsilon that does email marketing for firms such as Citigroup and J.P. Morgan Chase.

Though online storage firms boast of computer security, they are not immune to simple human error. Last year, the computer system was breached at a company named RSA that supplies the security codes to keep online bank transactions safe. Certain RSA employees apparently received an infected spreadsheet by email. Someone opened the spreadsheet, allowing malicious software to penetrate the company's computer security system, letting thieves in.

### **WEIGH THE OPTIONS**

You have many options for backup of important financial and other business information, and those options are likely to grow as technology advances. Think about your needs, what you store, and how much downtime your business could withstand from a major loss of data.

For specific information about online backup sites or software, consider well-regarded computer review sources such as the online company www. cnet.com or magazines such as PC World and PC.

Computers are wonderful and necessary, but they're not failsafe. You may not pick the ideal backup solution right away, and your needs may change, but you should have something in place. You wouldn't think of skimping on spare parts for your service trucks, and the information tucked out of sight inside your computer is just as critical to keeping your business running on time.

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hen Jon and Gale Houseknecht established Sunset Septic & Excavating Inc. back in 1995 after buying a long-dormant septic-pumping business, they found themselves the owners of four trucks that came with the deal: an old vacuum truck, a step van, a dump truck and a flatbed truck. That proved to be three vehicles too many.

Indiana

"Between fuel, maintenance and insurance costs, it was just too expensive to run so many trucks," Gale says.

A former parts salesman for a truck dealership, Jon came up with a novel, cost-effective solution: Buy a Kenworth semi-tractor and use different trailers including a large vacuum tanker trailer - to perform the company's various services rather than maintain several trucks.

"Ion used to work for Kenworth. so he thought a semi-tractor would be the way to go," Gale says. "This way, we keep one truck working well and use the trailers for versatility. Sometimes it scares people when they see a tractor truck pull in. But we won't drive on their lawn. Overall, everything works out better for us this way."

This common-sense, thinkoutside-the-box approach explains how the former farming couple has built a thriving business virtually from scratch. Their business philosophy centers on educating customers, pushing professionalism, shrewd marketing and branding tactics and cutting expenses through savvy use of equipment and land-application of septage.

(continued)

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Gale Houseknecht





# GET OUT THE WORD

The couple took an innovative approach to marketing their new business, which was for sale after the original owner died in 1993. Effective marketing was a must because efforts to run the business after the owner died had failed, so its customers went elsewhere, leaving a business in name only.

"I was very nervous about buying the business, while Jon was more optimistic," Gale recalls. "We didn't do any marketing analysis. We knew there were three other major septic haulers in our area ... and just took a chance."

The acquisition did not include the name of the former company, so Jon came up with Sunset because yellow is Gale's favorite color, and it was short, catchy and easy to remember. It also paved the way for an effective branding effort that includes bright-yellow T-shirt uniforms and a tanker trailer that's painted a blinding yellow.

"It's like a school bus," Gale says. "We get great feedback from customers, who say they see it all the time, and that it reminds them they need to get their tank cleaned. We painted it ourselves – it's very visible.

"The yellow shirts brand our business, too," she adds. "We also wear name badges. I want us to look professional. I feel that it makes you look like you know what you're doing – that we're not some fly-by-night operator. We wear them everywhere, even when I go grocery shopping, to increase our visibility."

The couple supplemented traditional phone book and newspaper ads by manning booths for several years at a local home and garden show and at the local La Porte County Fair. They gave away Sunset Septic pens, balloons and business cards and generated leads by holding drawings to give away free tank pumpings and loads of landscaping or driveway stone.

"That let people know what we were about ... how diverse we were," Gale says. "The county fair booth was very effective. A lot of people come to the fair and people are always looking for freebies. We did that for our first five years in business because it was so effective. Our kids showed



(continued)





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# CAREFUL APPROACH TO LAND APPLICATION

Faced with rising disposal costs that were slowly eroding profit margins, Jon and Gale Houseknecht, the owners of Sunset Septic & Excavating Inc. in Rolling Prairie, Ind., decided to land-apply waste. But like many things they do in running their business, they go above and beyond the norm.

Sunset started land-applying waste about five years ago, when disposal rates at local treatment facilities reached 8 cents per gallon. It took three years to get a permit to apply waste on farmland they own, Gale says.

"To stay competitive with pricing, we couldn't raise our rates to accommodate the increase in disposal fees," she notes. So Jon started to look into land applying and found that when done properly, it's good for the soil and the environment.

"We go above and beyond what we're required to do," Gale explains. "State code says we only have to put waste on top and disk it in, but we wanted to do better than that.

"So we apply the waste with a machine that applies and knifes in the waste at the same time," she continues. "It goes right into the ground, so you don't see it or smell it. With disking, it's a two-step operation (apply waste, then disc), and sometimes you can't get to it right away, so there's time for the waste to smell and debris to fly around."

In addition, the Houseknechts plant Mammoth clover on the fields, which keeps the land looking nice. "It looks like a lawn," Gale says.

At first, neighbors were upset, despite the couple's efforts to educate them about the more-stringent process they planned to use. But the protests ended when neighbors realized there was no odor and flying debris – and that the farmland looked nicer, too. In fact, some of the protesting neighbors now are Sunset customers, she says.

livestock at the fair, so we were there anyway. That was probably our best marketing tool.

"Now we have several thousand accounts," she adds, noting the company's business volume breaks down to about 60 percent septic pumping and 40 percent excavating.

### PERSONAL TOUGH

Another facet of the company's commonsense approach involves customer education and personal attention. For starters, someone always answers the phone. "If people have waste coming up in their bathroom, they don't want to leave a message on an answering machine," she says. If she's out on a call or quoting a job, Gale forwards the office phone to her mobile phone.

Gale says she almost always goes out with

Jon to give new customers a quote and, while doing so, takes time to explain things thoroughly. The couple also recommends ways a homeowner can forestall an expensive system replacement.

"For new customers, I introduce myself and hand out a business card," she says.

"I always wear a yellow dress shirt. I also hand out a flyer that explains how a septic system works. If they're having issues, I tell them to try this and try that and maybe you don't have to replace the system."

For example, she asks if customers' children take long showers, or if there are any leaking faucets or toilets. Or she checks to see if the system includes diverter valves, often found on older systems, that Jon can use to switch to a different drainfield.

"People lose them or bust off the caps, so they usually don't switch every other year from one area to another like they're supposed to," Gale notes. "But Jon is good at finding them. We troubleshoot the whole house and the whole system to try and save them a buck. And in today's economy, our customers really appreciate that, and the fact that we spend time going out to give quotes.

"They like it that we explain things to them and educate them – and without looking at our watches every five minutes. Knowledge is power. If you educate people, they love it. To them, it shows we care about their problem, instead of just coming in and pumping and then asking them to write us a check."

"KNOWLEDGE IS POWER. IF YOU EDUCATE PEOPLE, THEY LOVE IT. TO THEM, IT SHOWS WE CARE ABOUT THEIR PROBLEM, INSTEAD OF JUST COMING IN AND PUMPING AND THEN ASKING THEM TO WRITE US A CHECK."

Gale Houseknecht

### THE WILLIAM COLLEGE

The Houseknechts follow other courtesy protocols, too. For example, they always ask for permission to back onto a homeowner's property. If the homeowner says no, they pump from the road. They stress safety, always checking for the presence of children or pets, and generally do everything they can to accommodate customers.

"When we take out the hoses, we rinse them



off to make sure they're clean," she explains. "Then we cap off the ends of the hoses so they don't drain and mess up a yard while we drag them back to the truck. And before we leave, we give them a yellow, truck-shaped refrigerator magnet that includes our phone number. On the magnet, we use a permanent marker to write down the date we pumped, so they remember when the tank was last pumped."

The personal approach reaps dividends in the form of repeat business and referrals.

"That's why we get so many referrals," Gale says. "Jon always asks customers where they heard about us, and I'd say eight times out of ten, it's from customers' neighbors or friends."

# DO IT ALL

From the start, the Houseknechts employed a multi-pronged approach to septic services, performing pumping, excavating, installations and repairs. Not only does it provide more revenue streams, it also allows them to provide better customer service. Moreover, it helps persuade customers to use them because it's easier to deal with one business that can supply all the services, as opposed to hiring different contractors for each, Gale points out.

"We felt it was important to provide all the services, just to follow through," she says. "If we pump out a tank and find the system has failed, we want to be sure the customer gets a new system installed properly."

Providing a variety of services requires a range of vehicles and equipment. Sunset's inventory includes: a 1993 Kenworth T600 semi-tractor; a semi-trailer with a 3,500-gallon steel vacuum tank, made by Du-Mar Welding and equipped with a pump made by Moro USA Inc.; a 25-foot lowboy flatbed trailer made by Talbert Manufacturing Inc.; a custom-made "half-moon" demolition trailer; a Crust Busters tank agitator; three draincleaning machines made by Spartan Tool LLC; a John Deere 410G backhoe; a John Deere 450H bulldozer; a Hitachi EX120 excavator; a Prototek Corp. flushable sonde transmitter/locater; and a pipeline inspection camera made by Forbest Products Co.

#### more info

Crust Busters/ Schmitz Brothers, LLC 888/878-2296 www.crustbusters.com (See ad page 77)

Forbest Products Co. 650/757-4786 www.forbestusa.net

Infiltrator Systems, Inc. 800/221-4436 www.infiltratorsystems.com

(See ad page 7)

Prototek Corp.
800/541-9123
www.prototek.net

Moro USA Inc.

800/383-6304 www.morousa.com

Spartan Tool LLC 800/435-3866 www.spartantool.com

Lenzyme, Inc. 800/223-3083 www.lenzyme.com (See ad page 4) The couple also recommends that customers use bacterial-additive products made by Lenzyme Inc. and relies on plastic leach field drainage chambers manufactured by Infiltrator Systems Inc.

# TEAMWORK PAYS

Gale says running a family-owned business is rewarding. Their 23-year-old son, Cody, is a full-time employee; daughters Jonale, 25, and Aarie, 24, help out during summer breaks from college; and the couple's youngest son, Colt, 13, also helps out during summers.

Gale feels fortunate that her and Jon's skills mesh so neatly.

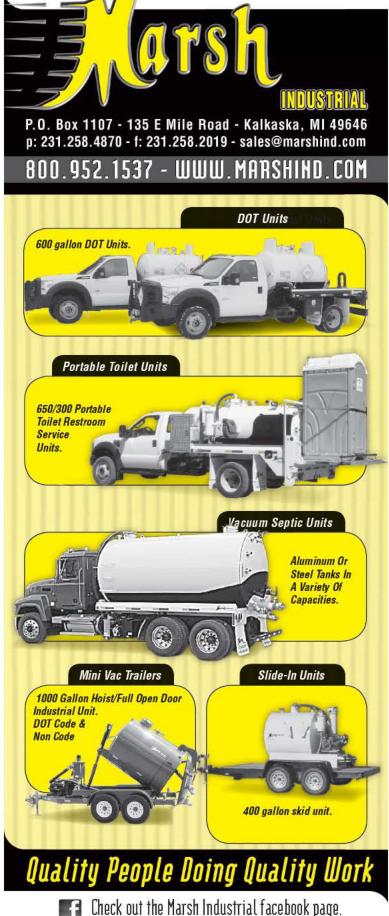
"Between the two of us, we can do just about anything," she says. "Jon can fix or engineer just about anything. We don't hire out for much of anything. What he can't fix, I can, and what I can't fix, he can."

In the long run, the couple hopes their sons will eventually take over the business. She says Cody is already an excellent operator – a perfectionist, just like his father, who can carry on the family's formula for success.

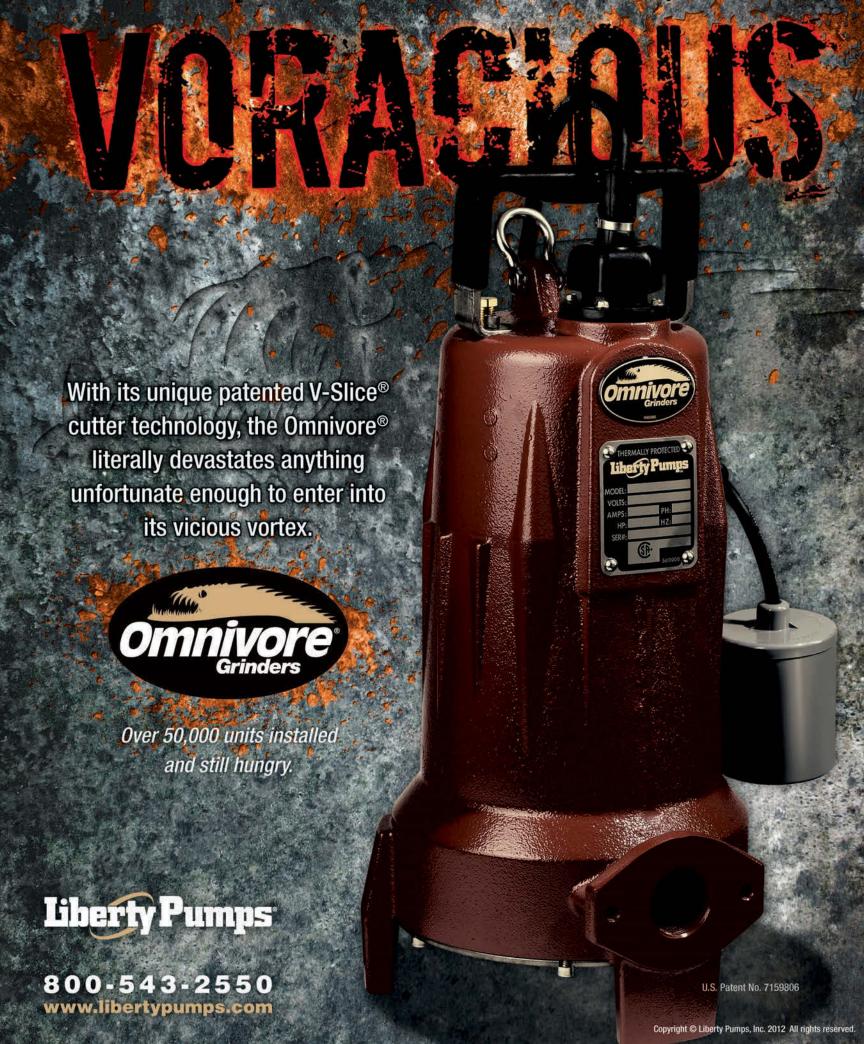
"We pay attention to details, we take time with customers, we care and we're honest," Gale emphasizes. "It's that simple." ■





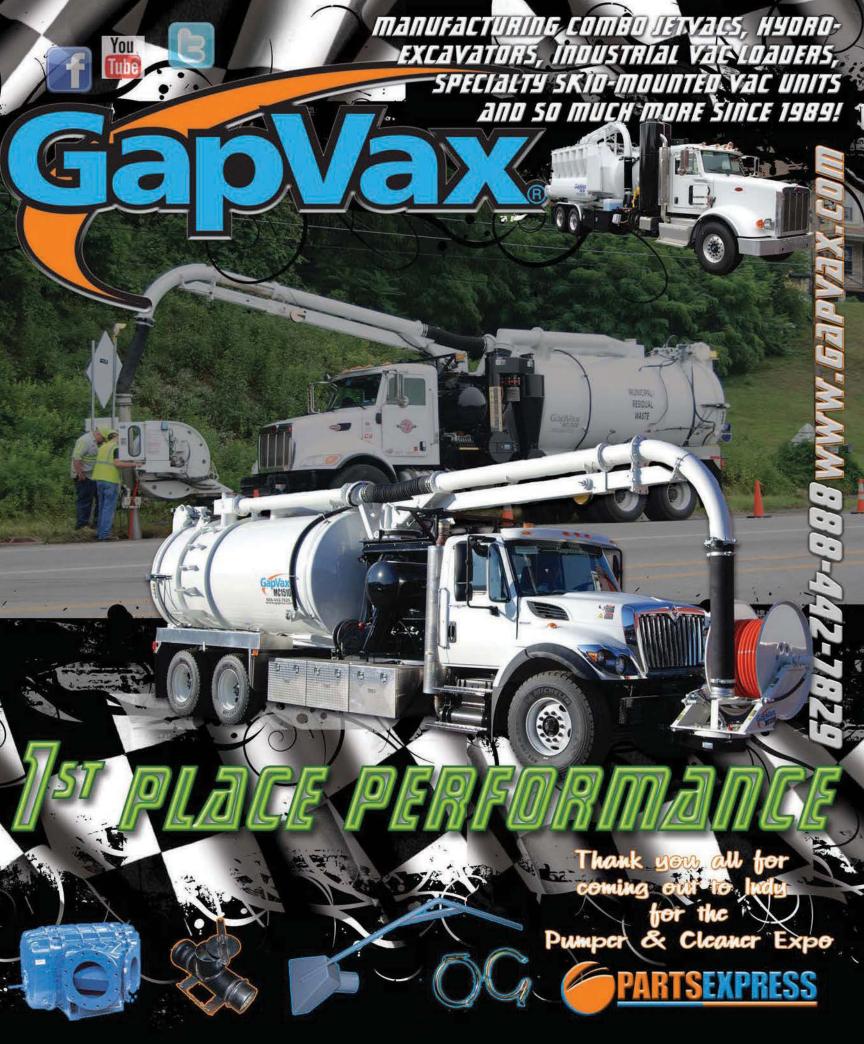


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# **UP TO THE CHALLENGE**

# ADVANCED ONSITE INDUSTRY PRODUCTS RESTORE SYSTEMS, PROTECT THE ENVIRONMENT

By Ed Wodalski

## **RESTAURANT'S DRAINFIELD RESTORED**

#### Problem

A new restaurant owner with no history of his septic system called Aalco - The Drain Doctor in Knoxboro, N.Y, after noticing septage coming up in the yard.

#### Solution

Upon inspection, it was found the septic tanks were full of heavy sludge as were the grease pits outside. The three distribution boxes also were full of sludge and not draining. Replacing the three leach fields would cost \$12,000. It was decided to waterjet the leach lines and Terralift between each line to fracture the soil around the stone ditches.

# Result

After two, 50-foot runs, water in the drainage box began to recede. Five years later the drainage is still working. 800/223-2256; www. callthedraindoctor.com.

# TRENCH DISPERSAL SYSTEM ACCOMMODATES SMALL LOT

# Problem

Breland Home builders near Huntsville, Ala., needed a system for a three-bedroom house with a much smaller footprint than a typical trench type dispersal system. The lot had a soil perc rate of 120 mpi and a seasonal high water table of approximately 20 inches. Barbara Lehman of Geo-Solutions searched for alternative products hoping to avoid the added expense of an ATU.

# Solution

Geo-Solutions designed an Advanced Enviro-Septic Wastewater Treatment System (AES) with Bron Bradley of Bradley Environmental. Since AES combines treatment and dispersal in the same footprint, the area required was only 1,607 square feet, less than half that needed for a trench system. The system was divided into two separate sand beds, each including three 40-foot rows of AES pipe placed 18 inches on center. The system also included a 1,500-gallon septic tank and D-box. No mechanical devices were needed to support the passive biological treatment process. Sid Nayman installed the system in one day with minimal equipment and labor.

#### Result

The AES System provided an easy and affordable installation on a very small lot. 800/473-5298; www.presbyenvironmental.com.

#### **ALL-IN-ONE TREATMENT SYSTEM MEETS SPACE NEEDS**



A three-bedroom home on a small lot in Juneau, Alaska, had a failed drainfield. There wasn't enough room for a conventional drainfield and direct discharge of treated effluent was not an option. Needed was a robust all-in-one treatment and dosing system to provide effluent bypass protection and quality effluent for disposal in a limited area.

#### Solution

Sloan Swedsen, co-owner of Juneau Septic Services, designed a system using an Anua Platinum submerged aerated filter for

secondary treatment and clarifier with integrated pump package along with two Puraflo peat fiber biofilters for final polishing of the secondary treated effluent and in-ground pad for dispersal of the effluent weeping from the base of the Puraflo modules.

# Result

The submerged aerated filter and peat fiber biofilter provided high quality effluent in a small footprint, with greatly reduced nitrogen and pathogen levels. 336/547-9338; www.anua-us.com.

# BIO-AUGMENTATION RESTORES FOG-DAMAGED DRAINFIELD

# Problem

A large, quick-serve restaurant suffered habitual drainfield failures due to the buildup of fats, oils and grease. The drainfield was replaced three times in the first five years of business. After failing again, the health department demanded the installation of an aerobic wastewater treatment plant at an estimated cost of \$40,000.

## Solution

The restaurant obtained an experimental variance to utilize bioaugmentation. An initial inoculation of 20 gallons of BioOne was applied directly to the distribution box. A BioOne Auto Dispenser was installed, dispensing 5 gallons of BioOne per month.

(continued)

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#### Result

After 30 days, the drainfield was fully restored and the health department rescinded its demand for the wastewater treatment plant. 800/951-4246; www.1biotechnology.com.

# FUSION TREATMENT SYSTEM SAVES LAKE FROM CONTAMINATION



#### Problem

A mobile home park in Michigan had a failed septic system resulting in surfacing effluent and contamination of a nearby lake. The site had an existing 20,000-gallon septic tank and the owner was restricted to pumping and hauling the waste away. A replacement drainfield was not possible due to site constraints that included limited space, poor soil conditions and a high water table.

### Solution

After careful consideration, a new system was designed to treat 5,000 gpd, utilizing the existing septic tank and a Clarus Environmental WW4 effluent filter. Two ZFL-2400 Fusion Treatment Systems were installed in parallel with influent evenly split using a Tru-Flo Splitter box. Treated effluent was collected in a 1,500-gallon dose tank. Two Zoeller Model N153 pumps were used to dose the low pressure drainfields.

#### Result

Since startup, the system has performed perfectly. System maintenance is performed twice a year. 877/244-9340, www.clarusenvironmental.com.

# HEALTH DEPARTMENT COMPLETES REPAIRS FOR LOW-INCOME RESIDENTS

# Problem

In 2011, the Clermont County, Ohio, General Health District obtained a grant to help pay for septic system repairs for low-income county residents.

### Solution

The health district selected the SABER septic system from Advanced Wastewater Systems LLC for four repair projects, which included new septic tanks with an aerobic treatment kit installed in the second compartment of each tank. Each system dosed a reduced-size, elevated sand mound for effluent disposal. The high quality effluent allowed the mounds to be smaller than normal and fit the existing lots. The decant pump dosed the mounds directly, eliminating a separate pump tank, reducing overall system cost.

#### Result

The health district specified the equipment and bid the projects to local contractors. All were completed and operating successfully. 812/926-4282; www.saberseptic.com.

## **CHEMICAL DRAINFIELD RESTORED**



#### Problem

A residential customer in Reading, Pa., had a raised bed system that failed. The system was set on a non-conforming lot. Replacement cost was \$35,000.

#### Solution

The customer contacted Scott Fick of PW Essig Inc. The local plumbing contractor recognized sodium buildup in

the drainfield and recommended Septic Drainer restorative. After having the tank inspected and pumped, he exposed the D-box and removed biomat from the leach lines using a 4,000 psi jetter and poured 4 gallons of Septic Drainer into the sewer jet water holding tank, leaving enough water in the tank to jet each leach line once. The process forced Septic Drainer into the leach lines, ensuring a consistent application of the product.

#### Result

The system was restored and operating normally in less than two hours. The customer adds one gallon every six months via inside drain lines to maintain the system. 518/812-0000; www.septicdrainer.com.

# SURFACE PONDING ELIMINATED



# Problem

A 40-year-old, fourbedroom home with three occupants and 890-gallon septic tank in Springfield, Mo., had a 12-month average flow rate of 174 gpd with a monthly low average of 150 gpd and monthly high of 209 gpd. In 2002, the system experienced surface ponding and surface discharge in a 20foot diameter area.

# Solution

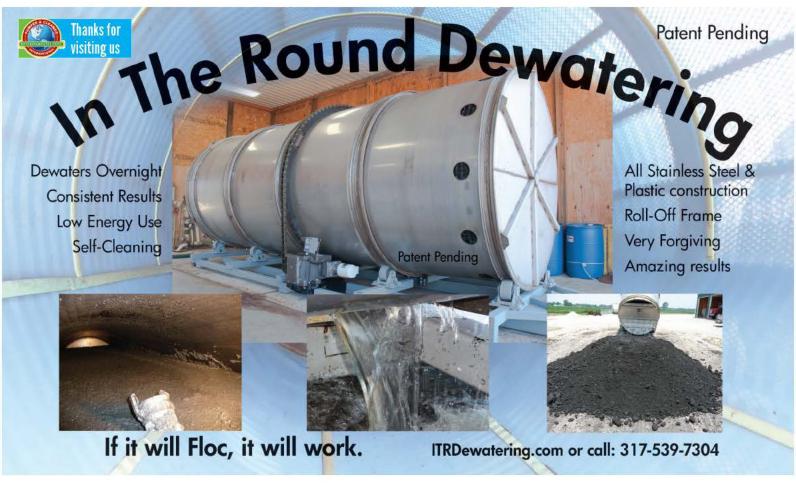
The system was pneumatically ruptured, improving performance for two years when effluent again began to surface. Green County issued violation notices. The next step would be condemnation of the home. On Dec. 16, 2009, a Remediator system from Aero-Stream was installed.

#### Result

After 10 days, most of the effluent surfacing had ceased. Within 60 days of installation, surface ponding was eliminated. 877/254-7093; www.aero-stream.com. ■







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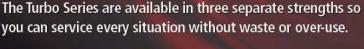
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Fred S. Steingold practices law in Ann Arbor, Mich. He is the author of Legal Guide for Starting and Running a Small Business and The Employer's Legal Handbook, published by Nolo.



# **IS YOUR DRESS CODE LEGAL?**

# FOLLOW THESE TIPS TO CRAFT RULES ABOUT EMPLOYEE APPEARANCE THAT STAND UP TO SCRUTINY

By Fred S. Steingold

ose rings and other facial piercing can be a turnoff for some customers. Ditto for extreme hairstyles or strangely colored hair. Especially if your employees meet the public, you might consider a dress and grooming code. But you may be hesitant to take that step. It's reasonable to wonder about potential legal problems. Fortunately, you have a largely free hand in controlling your employees' appearance while they're at work. The key is to have a legitimate business reason for your rules.

For example, Widget Manufacturing Co. has a rule requiring all of its assembly workers to wear pants – no skirts or dresses allowed. The reason: to avoid having fabric get caught in the company's machinery. This is a proper reason and unlikely to lead to a legal challenge.

Still, there are some limits to what you can require. You can't have a dress code that discriminates against employees because of their race, color, religion, national origin or gender. And you need some flexibility for employees who have a disability. Let's start with a look at how the anti-discrimination rules apply. Then we'll get to some specific tips for creating and enforcing your dress and grooming code.

## **NO DISCRIMINATION**

In some cases, you can run afoul of federal civil rights laws. Those laws ban discrimination in the workplace. They basically apply to employers who have 15 or more employees. Several states, however, have laws with similar provisions that cover smaller employers. Here are the three main areas in which a dress and grooming code can become legally iffy.

THE COURT UPHELD COSTCO'S RULE, SAYING THE COMPANY HAD A LEGITIMATE NEED TO DELIVER A PROFESSIONAL IMAGE TO ITS CUSTOMERS. IT WOULD HAVE IMPOSED AN UNDUE HARDSHIP ON THE COMPANY TO ACCOMMODATE THE CASHIER'S REQUEST FOR AN EXCEPTION TO THE RULE.

# Religious Discrimination

Be careful if your dress code conflicts with an employee's religious beliefs or practices. You need to make a reasonable accommodation to those beliefs or practices – but not if the accommodation would place an undue hardship on your business. You don't need to make an exception to your dress code if doing so causes more than a minor cost to your business. Similarly, you needn't make an exception if doing so would create safety problems or interfere with the rights of other employees.

If an employee balks at your dress code for religious reasons, be sure you can document your reasons for not making an exception for the employee.

The bottom line: If your dress code prohibits head coverings or hats, you may need to accommodate a Jewish employee's request to wear his skull-cap, or a Muslim employee's request to wear her headscarf – unless you can show it would be a hardship for your business to allow the request.

In one case, retailer Costco had to defend its rule that employees could not come to work with "facial jewelry" other than earrings – a rule based on some

customers' discomfort with body piercings. Costco had fired a cashier who saw customers every day. She had refused to remove her facial jewelry, claiming that she belonged to the Church of Body Modification. She said her religion required members to participate in piercing, tattooing and branding.

When the employee sued, the court upheld Costco's rule, saying the company had a legitimate need to deliver a professional image to its customers. It would have imposed an undue hardship on the company to accommodate the cashier's request for an exception to the rule. An exception would adversely affect Costco's public image.

# Racial and Disability Discrimination

Some physical appearances may be related to a medical condition. If so, the laws for dealing with a person's disability may apply.

Suppose your dress and grooming code says "no facial hair" is permitted. You may need to make an exception for African-American employees who have a skin condition that makes it difficult for them be clean-shaven at work. Otherwise, you could be cited for violating the Americans with Disability Act – or a similar state law.

What's more, strictly enforcing your "no facial hair" rule may have a particularly harsh impact on one minority group. This can violate the laws against racial discrimination. In the absence of a strong business reason to apply the rule to all employees, it would be prudent to make an exception for employees with a skin condition that makes shaving difficult.

# Sex Discrimination

Generally, you can have different dress codes for men and women. Be careful, however, if your policy places a greater burden on women. Avoid a policy, for example, that requires women managers to wear suits, but allows men to wear T-shirts and jeans.

A dress code that conforms to social norms is OK even if it applies to just one sex. You're unlikely to get into trouble if you require men to wear their hair short, but you don't have a similar requirement for women.

# **Drafting and Enforcing Your Dress Code**

Here are some tips for staying out of legal trouble:

- Have good business reasons for your rules. Explain the reasons in your code so workers know you're not being arbitrary or unfair. Your reasons might include maintaining your company's image, promoting a productive work atmosphere, or addressing health or safety concerns.
- Start with simple requirements. Specify that your employees must have
  a well-groomed appearance. Then go on to identify clothing that isn't
  appropriate. This might be items such as sweat suits, shorts, jeans or
  flip-flops.
- Spell out the consequences of not complying. You can state the consequence in your company's handbook in the same section that contains the rules.
- Have employees acknowledge new policies in writing. Then an employee
  can't later complain that he or she wasn't properly informed about what
  was expected.
- Apply your rules uniformly. But, as noted above, there may be individual
  cases where you need to make an exception to the rules.



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# **SIREN SONG**

NORTH CAROLINA PUMPER JOSHUA BRANSCOME HELPS SAVE LIVES IN HIS SPARE TIME ... AS A FULL-TIME PARAMEDIC



hen Joshua Branscome isn't saving homeowners' septic systems, he's helping save lives. The owner of B & M Septic Tank & Drain Service Inc. doesn't see many days off. Instead, Branscome, of Lawsonville, N.C., works four days a week as a pumper/installer, and the other three as a paramedic for Stokes County Emergency Medical Services.

But he's not complaining—it suits him. At 24, he's already logged a decade in pumping and six years of emergency services work. He loves what he does, can't stand to sit still, and manages to fit in quality family time around all that activity.

Branscome met his wife, Misty, when he was 17, and they got married three years ago. She already had a daughter, Lauren, 9. Together, they have Savannah, 5, and Trey, who will be 3 in June. "I was 19 when Savannah was born," he recalls, "so I had a family I had to provide for I was bound and determined I wasn't going to ask anybody for help."

A determination for hard work came early for Branscome, and it comes in handy with his incredible schedule.

#### STARTED OUT YOUNG

Branscome went to work for his aunt and uncle at age 14. He helped out in summer, pumping tanks, shoveling rock for septic system installs and washing trucks. His uncle died in 2004, and the following year his aunt asked him to take over the installation side of the business.

Just 18, Branscome became the crew foreman. "I was extremely scared," he recalls. "But I was lucky. The company had a good reputation and I figured if I just kept up that same quality of service, I'd be OK."

He says even in the current economy, B & M is doing well. "We're fortunate to have large maintenance contracts with the local school system. People are opting to repair rather than replace broken systems, so there's more of that than new installation. But we've always got at least one truck running."

Branscome has expanded service offerings with the addition of about 60 portable restrooms, mostly standard units from PolyPortables Inc. and Satellite Industries. He contracts the portable sanitation service with another pumper.

"I DIDN'T SLEEP MUCH THEN. BUT IF YOU KNOW YOUR FAMILY DEPENDS ON YOU TO DO SOMETHING, YOU GET IT DONE. MY WIFE AND I WANTED HER TO BE ABLE TO STAY HOME TO TAKE CARE OF THE KIDS, SO WE MADE IT HAPPEN."

Joshua Branscome





Joshua Branscome on the job with Stokes County Emergency Medical Services

B & M runs two trucks, both 2000 International 8100s built out with steel tanks by Abernethy Welding & Repair. The first has a 2,100-gallon tank with a Masport HL15 pump. The second carries a brand new 3,200-gallon tank and a Masport 400 pump.

# THE AMBULANCE CALLS

Branscome joined the local volunteer fire department in 2005. A bunch of his school friends were also members, there and for the Stokes County EMS.

"They told me I'd enjoy (EMS) if I joined, and I fell in love with it. But at that point it was just a hobby. Now I've had my paramedic certification a year and a half," he says. "I realized if I went to work for them full time, I'd get a retirement plan and health insurance benefits." With a schedule of one day on and two days off, he's considered a full-time paramedic.

Branscome put in two years of EMT and paramedic training – two nights a week – and an occasional Saturday evening. Then came clinical internship, 250 ambulance hours plus 150 hours of hospital duty, none of it paid.

"I didn't sleep much then," he says. "But if you know your family depends on you to do something, you get it done. My wife and I wanted her to be able to stay home to take care of the kids, so we made it happen."

Typically, his paramedic day starts at 6:45 a.m. During downtime between calls, he takes care of septic billing and administrative tasks. He likes the idea that his paramedic work saves lives, and loves the technology



that goes into pumping, which he still considers his first love. "I love to diagnose each problem and nothing's ever the same. It's what I plan on doing for the rest of my career."

## A JUGGLING ACT

When Branscome's on the ambulance, his pumping company crew of one full-time and three part-time workers take over. Branscome rarely takes a day off at this point, with the exception of a week of family vacation.

His two pursuits clash occasionally. "If we have a whole lot going on with installing or pumping, it can be hard to schedule the two

trucks. We're lucky, most of our customers understand, as long as we don't promise what we can't deliver. If we tell them we can't come a certain day, they know we'll be there as soon as we can. We have to schedule the large jobs around my schedule because I want to be there for major projects."

What about some professional/personal balance? "I'd like to think my business is family-oriented," Branscome says. His kids frequently visit his backyard shop. "If I'm outside working, my kids are with me. I love having them around."

Branscome admits he won't be able to keep up this frantic pace forever. "If the economy ever gets straightened out to where we could do 2-3 installations a week like we used to, I'll probably go back to part-time with the EMS," he says.

And he realizes his double work life isn't for everyone.

"You have to ask yourself if the time you spend away from your family is worth it," he advises. "Make sure you really enjoy your work, because you're going to spend a lot of time at it. If you do that, it'll work for you."

# HAVE A SUGGESTION?

After Hours explores what business owners do and issues they face outside of the workplace. Topics may include balancing work with family time, fitness and travel, hobbies, volunteer activities, or other lifestyle or "human interest" stories. Send suggested topics or people we could feature to editor@pumper.com.

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- Rick Howe, President

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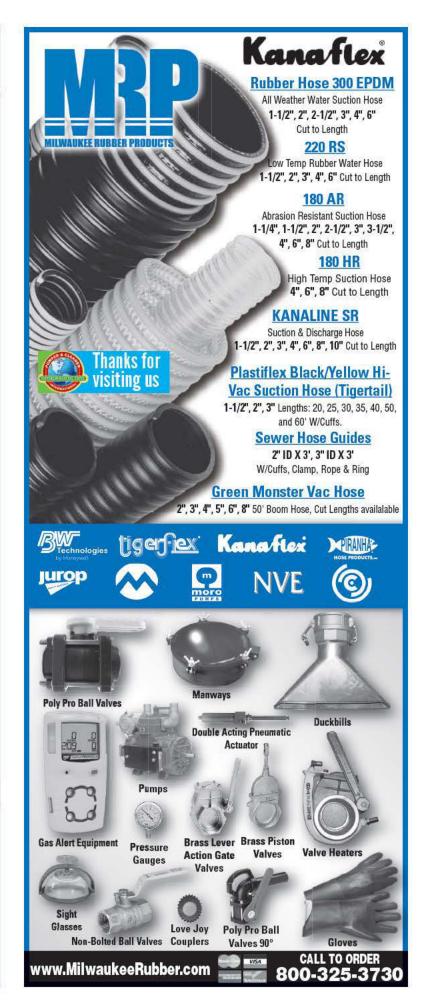














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- 2005 IH 7600
- CAT C-13 380 HP / 10-SPD
- 50 @ 3000 / DEUTZ 138 HP
- Mileage: 31,000



- 2006 INTERNATIONAL 7400
- 300 HP / ALLISON 3000RDS
- 80 @ 2000 / DEUTZ 138 HP
- Mileage: 76,600



- 2002 Sterling LT7501
- CAT 275 HP / Allison MD3060
- 60 @ 2000 / Cummins 110 HP

RECONDITIONED \$155,000

HYDRO-X PACKAGE

\$195,500

RECONDITIONED \$205,000



# 2001 VAC-CON VPD3611SHA/1300

- 2002 INTERNATIONAL 2654
- 275 HP / ALLISON MD3060
- 60 @ 2000 / CUMMINS B3.9
- Mileage: 33,000



2006 VAC-CON V312LHAD

- 2007 STERLING LT7501
- CAT 275 HP / Allison 3000RDS
- 50 @ 3000 / DEUTZ 138 HP
- Mileage: 23,000

• 2001 IH 2654 275 HP / Allison MD3060

• 60 @ 2000 / John Deere 4045T

2000 VAC-CON VPD3609SHA

- Mileage: Approx 45,000

\$145,000

RECONDITIONED \$165,000



# 2001 VAC-CON V312LHAD/1300

- 2001 Sterling LT9501
- CAT 380 HP / 10-Speed
- 80 @ 2000 / Cummins 110 HP
- Mileage: 73,000

RECONDITIONED \$185,000



\$209.500

2004 VAC-CONV311LHAD

- 2004 Sterling LT7501
- CAT 275 HP / Allison MD3060
- 65 @ 3000 / DEUTZ 138 HP
- Mileage: 88,200

RECONDITIONED \$195,000













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# SUCCESSFULLY MANDATING INSPECTIONS

# TO IMPROVE LAKE HURON WATER QUALITY, RESIDENTS OF A CANADIAN TOWN ACCEPT A NEW TAX AND COOPERATE FULLY WITH REQUIRED SEPTIC SYSTEM CHECKS AND MAINTENANCE

By Scottie Dayton

ooking at algae blooms washing ashore reminded residents of Huron-Kinloss, Ontario, of when Lake Huron was pristine. They didn't like seeing the mucky mess and the health department closing beaches to swimmers. They demanded action from the Township Council.

Officials turned to their civil engineering firm, B.M. Ross in Goderich, to design a septic inspection program. Although the firm had 10 years of water quality data showing onsite systems and agriculture were equal polluters, it focused on septic tanks after researchers found high *E. coli* levels in a stream not connected to farming and running through the middle of Point Clark.

"We concluded that the cause was probably partially remediated septage leaching into the sandy soil and the high water table flushing it out," says environmental planner Matt Pearson.

The community accepted the responsibility of owning sewage treatment plants in their back yards and endorsed the inspection program voluntarily. It was recognized at the 2011 State of the Lakes Ecosystem Conference for protecting the quality of the Great Lakes.

**Pumper:** How many onsite systems are in the township? **Pearson:** We have 2,800 systems serving 6,500 permanent residents and 3,500 seasonal ones along 12 miles on or near the southeastern side of Lake Huron. Our densest populations are in Point Clark at the south end of the lake and near the town of Kincardine at the north end. Lucknow and Ripley, serviced by sewers, are the largest inland towns. The rest is farmland and wooded areas.

Our septic scene has changed over the last 20 years. Many retirees have converted seasonal cottages to year-round homes and developers built large subdivisions near the lake. The Ministry of Environment was concerned about pollution from the onsite systems, so we did a risk assessment of continued development. The systems seemed to be working. The caveat is once they are approved, no authority checks that they are being maintained.

**Pumper:** What are the most common types of onsite systems? **Pearson:** Most are traditional septic tanks with stone beds. About 1 percent have been replaced with peat moss biofilters. New construction in clay soils favors raised mounds with leach fields.

Pumper: What were the parameters of the inspection program?
Pearson: The idea was to have everybody in the township participate, including the 35 percent who are seasonal. We planned the program over seven or eight years to ensure that inspections were done correctly. We also change the target locations every year so people recognize the program and associate it with our advertising.

If communities do something like this, it's important to change people's attitudes from "I've gone 10 years without a pump-out and probably don't need one" to "I need to have the tank pumped." Education is always part of the plan because homeowners should understand what is happening and why.

Communities also must identify barriers that will prevent people from participating. The biggest one is usually money, followed by the fear of having their yard torn up. Handing homeowners a \$400 inspection bill is sticker shock, so we proposed and they accepted a \$55 increase in their annual township taxes to cover the cost of the program.

"IN 2011, WE MAILED 800 LETTERS EXPECTING 400 APPOINTMENTS, BUT 75 PERCENT RESPONDED. PEOPLE WERE SIMPLY WAITING THEIR TURN. WE DID 600 INSPECTIONS, BREAKING OUR RECORD OF 470, BRINGING THE TOTAL TO 2,000."

**Matt Pearson** 

Pumper: How did you implement it?

**Pearson:** We began in 2007 with 400 inspections. The key was involving people by mailing notification letters that asked them to call for an appointment. Fifty percent responded. The letter also explained that the inspector needed to see inside the tank and that required calling a pumper – and they did.

Because it's an important job, we hired an inspector from our Grey Bruce Health Department. We wanted a qualified person interacting with the public, and most inspectors are environmental technologists from colleges or universities.

During the inspection, they remove the lid and examine the tank with a camera, take a history of the system and family practices, and try to find the drainfield. Ontario didn't begin issuing Certificates of Approval until 1976. B.M. Ross worked with health officials to match upgraded systems with original certificates and to spatially map them.

After the inspection, we mail a package with educational materials and an aerial photo showing the location of the onsite system. Homeowners really like that. The package also includes the inspection report, a risk rating, a pump-out log, and a copy of the original Certificate of Approval, if we found it. We also tell them to leave the package for the new owners if they sell the property.

**Pumper:** How did you handle residents who didn't make appointments?

**Pearson:** We sent a university student to their property the next year. If they weren't home, she hung a reminder on the door. Half the people responded, giving us 75-percent voluntary compliance in two years. After that, students phoned, which meant finding numbers because many owners lived out of the area.

Mainly, people didn't participate because they set the notice aside and forgot about it or were away for the year. After five years, we have almost 100 percent compliance in the early target areas without chasing too hard.

In 2011, we mailed 800 letters expecting 400 appointments, but 75 percent responded. People were simply waiting their turn. We did 600 inspections, breaking our record of 470, bringing the total to 2,000.

the first year, the initial startup expenses were gone and we became more efficient.

Communities must think of onsite systems as assets. Ours are valued at \$10,000 to \$15,000 each or \$20,000 if it's a biofilter. Multiply \$15,000 times 3,000. We're spending \$165,000 a year to maintain \$45 million in assets or 0.33 of a percent on inspections. If everybody pumped their tank once during the program, we might have another 0.33 of a percent. Spending two-thirds of 1 percent a year to maintain an asset is pretty cheap.

That's the real key to this program. It's not subsidized by anybody. You own this asset; it's your responsibility to take care of it. ■

**Pumper:** What is the percentage of low-, medium-, and high-risk systems?

**Pearson:** From 2007 to 2010, inspectors rated 59 percent or 1,652 systems at low risk, 37 percent or 1,036 at medium risk, and 4 percent or 112 requiring replacement.

**Pumper:** What are the most common problems on mid-risk systems?

**Pearson:** Broken or missing outflow baffles and clogged effluent filters. Filters became mandatory in 2006, but most people don't know they have one. We show them how to clean and replace the filters. We find crumbled concrete lids and buildings, trees, and even a croquet court on the drainfield. Risers weren't popular until 10 years ago, so we suggest to homeowners that they have them installed – and they do, after we explain that spending \$400 now can save them thousands of dollars later.

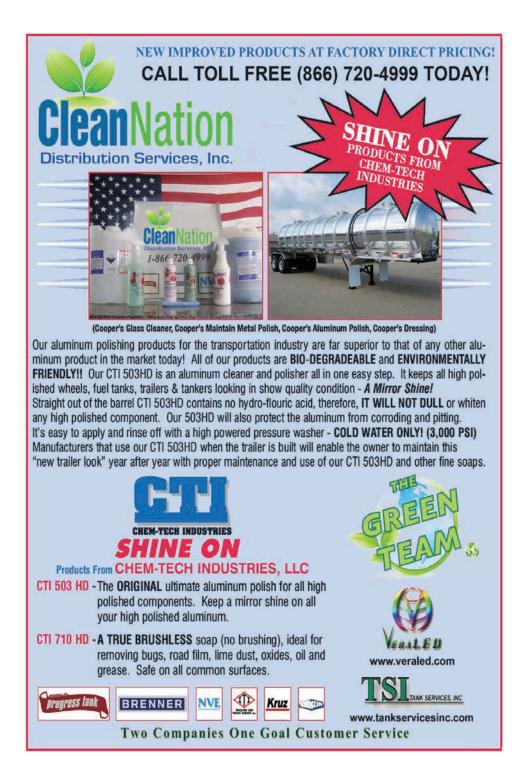
**Pumper:** What is your relationship with pumpers and installers?

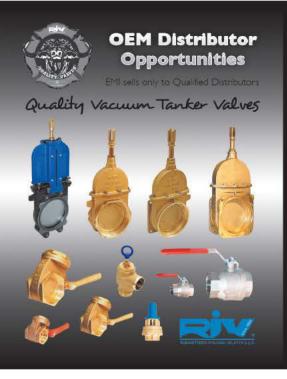
**Pearson:** Solid. Early on, we met with the five pumping services – two also do installations – and gave them brochures about the program to hand to their customers. They lend components for us to show on demonstration days, and they have been very helpful informing us about their work. We're tracking all repairs and entering them in a spatially mapped database. We're also asking homeowners to send a copy of their repair bills, and compliance is high.

**Pumper:** What advice would you give communities wanting to start an inspection program?

**Pearson:** Keep it at the local level or risk bogging down in politics and going nowhere. There is no reason to make it bigger. Don't waste the opportunity to gather all the information you can. Manage it with GIS connected to properties so you can use the data for other things.

What we've seen are small communities believing they can manage everything. In truth, they don't have the resources. Hire the data management, the graphics, the marketing. Is it expensive? Yes, but consider this: We've been working with the same \$55 per property or \$165,000 a year for five years. After







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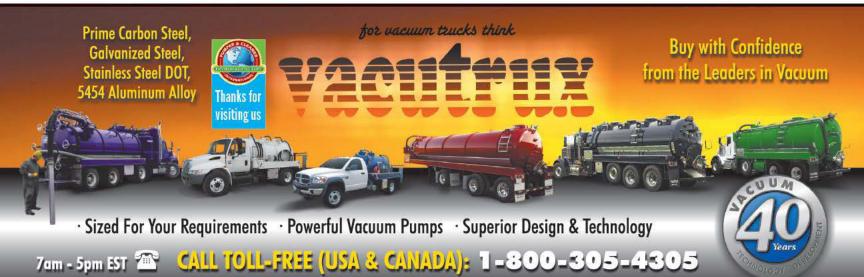
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**Product Roundup** 

# Problem Solvers

WHEN THE JOB CALLS FOR TANK REPLACE-MENT, DRAINFIELD RESTORATION OR SYSTEM MAINTENANCE IT'S TIME TO BRING IN THE PROBLEM SOLVERS

**By Ed Wodalski** 

ightweight, watertight tanks, drainfield restoratives, effluent filters, treatment systems and monitoring devices can keep onsite septic systems performing at their best.



# **Ace Roto-Mold**

Horizontal flow, single- or double-compartment, 1,500-gallon septic tanks from Ace Roto-Mold, division of Den Hartog Industries, are manufactured for below-ground installation up to 36 inches and IAPMO approved. Features include circumferential ribbing and interior baffle system for sustained external pressure up to 500 psf. Other features include two access openings sealed to the tank with rubber gaskets that lock for a watertight seal.

Tanks are available plumbed in accordance with state or county specifications. Tanks and access covers are manufactured from high-density polyethylene with UV stabilizers. Covers interlock with the tank body using three bayonet keys. Covers are capable of being secured with a nylon wire tie and do not require metal fasteners for retention. 800/432-3408; www.denhartogindustries.com.

# Advanced Drainage Systems Inc.



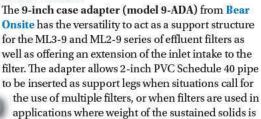
The GEO-flow pipe leaching system from Advanced Drainage Systems Inc. features a 10-inch diameter, single wall, high-density polyethylene corrugated pipe, surrounded in a polypropylene grid, both encased in geotextile fabric for equal distribution and enhanced biological reduction. The system cools effluent as it passes through, aiding in the separation of foods, oils and grease from the wastewater, while providing additional treatment of solids that might escape the tank. The gravelless system is designed for conventional septic tank and pipe and gravel leachfield sites. 800/733-7373; www.ads-pipe.com.

# **Arcan Enterprises**

Septic-Scrub drainfield flow restorer from Arcan Enterprises is an environmentally friendly chemical treatment that oxidizes sulfides and releases oxygen into the drainfield for improved soil absorption. 888/352-7226; www.arcan.com.



# **Bear Onsite**



significant, such as in a grease interceptor. The PVC support legs can be placed outside the extension pipe inlet, allowing solids that slough off the filter to fall back into the pretreatment tank. The pipe's 6-inch diameter reduces the velocity of effluent leaving the pretreatment tank, reducing the amount of solids carried to the filter for extended service life. 901/831-5155; www.bearonsite.com.



Bear Onsite

The MicroFAST wastewater treatment system from Bio-Microbics Inc. can be used for new construction, renovations and repairs in nitrogen sensitive areas. The system maintains microbial growth during low, average and peak usage; increases sludge settling, eliminates sludge bulking and is NSF 245 certified. As an aerobic treatment unit, the system utilizes a completely



submerged fixed-film and passive-recycle process. Engineered to fit most treatment capacities for one (NSF 40, Class 1 certified) or multiple homes, the treatment system is designed for residential strength wastewater in seven specific sizes based on daily wastewater flow. 800/753-3278; www.biomicrobics.com.

# Cape Cod Biochemical Co.

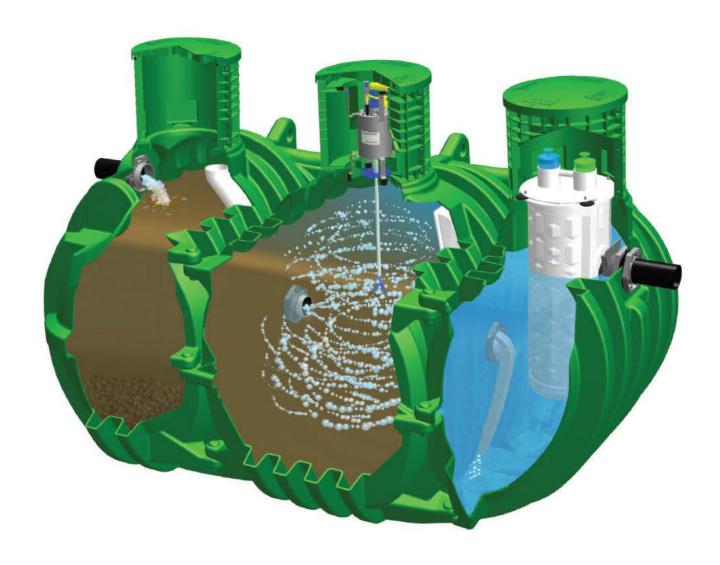
AfterShock soil absorption restorative from Cape
Cod Biochemical Co. restores drainage to clogged
and sluggish drainfields and drainage structures,
prevents backups and eliminates odors. The multistrain, bacillus spore-bearing bacteria digests the solid
material that clogs soil absorption areas. Oxidizer
accelerates bacterial activity and helps to degrade
sulfides in the biomat to further promote drainage.
The naturally occurring, USDA-approved, laboratoryenhanced organisms are nonhazardous, nontoxic



and contain no EPA priority pollutants. Effective in residential and commercial drainfields, cesspools and seepage pits, it can be used with waterjetting and soil fracturing equipment. 800/343-8007; www.septiconline.com.

(continued)

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Power Zone control panels from CSI Controls feature zero-crossing technology to maximize relay life by increasing load capacity. Each NEMA 4X control panel has a fount-mounted touch pad with exterior LED indicator lights and digital display for pump

programming, including elapsed time and cycle counter, high level counter, float status indicators, low level alarm on/off selection, lead pump selection, adjustable level and alarm settings. Panels are available in single phase junior, simplex and duplex models for demand dose or timed dose. Pedestal with access door is available. 800/363-5842; www.csicontrols.com.



Custom Biologicals Inc.

# **Custom Biologicals Inc.**

Septic Fizzytabs from Custom Biologicals
Inc. are effervescent tablets that dissolve
when dropped into the toilet bowl, delivering
billions of bacteria to the septic tank. The
tablets degrade fats, oils and grease, as well as
organic solids, while restoring bacteria that
might be killed by anti-microbial soaps and
pharmaceuticals. Not affected by temperature,
the tablets require no mixing or measuring.

561/998-1699; www.custombio.com.



# Drainbo

Septic treatment and cleaner from Drainbo is a bacillus-based, natural alternative to toxic drain products. Formulated for use in all home drains, it digests household waste such as grease, soap film, oils, fats and other common proteins. The USDA-certified, biobased treatment increases digestion in the septic tank and digests and removes sludge deposited in the leach system that impedes the ability of liquid to disperse and evaporate. Private labeling available. 877/372-4626; www.drainbo.com.

# **Ecological Laboratories Inc.**



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

and Pro-Pump/OX (powered oxygenator) calcium peroxide/hydroxide mix. 800/326-7867; www.propump.com.



# **Hedstrom Plastics**

Septic tank covers from Hedstrom Plastics are made of green, heavy wall polyethylene and fit standard 18- and 24-inch double-wall corrugated pipe. Gaskets and safety hardware are included. Safety nets are available. Covers can be filled with sand on site for added weight. Foam-filled lids are available. Lids can be personalized with company name. 877/623-6222; www.hedstromplastics.com.

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# Lenzyme Inc.

Septic Kit drainfield restoration from Lenzyme Inc. contains an environmentally friendly chemical treatment (Septic-Scrub) that oxidizes sulfides and releases oxygen into the drainfield and biological activator to help break down solids. The kit contains a two-year supply of monthly treatments and can be used for seepage pits, cesspools and traditional drainfields. 800/223-3083; www.lenzyme.com.



# **Liberty Pumps**

The 290-Series of effluent pumps from Liberty Pumps feature a one-piece, cast iron motor housing and base, stainless steel rotor shaft and permanently lubricated upper and lower ball bearings. The pumps offer heads to 48 feet and maximum flows to 83 gpm. Other features include 1 1/2-inch discharge, 3/4-inch solids handling and 10- to 50-foot power cords (depending on model). 800/543-2550; www.libertypumps.com.



# Norwesco

Low profile, seamless septic tanks from Norwesco are available in 500-, 750-, 1,000-, 1,250- and 1,500-gallon sizes. The one-piece construction provides added strength, eliminates possible leakage and requires no assembly, no special backfill or water-filling. 800/328-3420; www.norwesco.com.



Orenco Systems Inc.

# Orenco Systems Inc.

The AdvanTex AX-RT Series of advanced treatment systems from Orenco Systems Inc. are designed for system repair and rehabilitation. All interior components are pre-plumbed, installed and adjusted at the factory. The unit can be shallowly buried for use between a functional, watertight septic tank and functioning drainfield. Its 4-in-1 design includes recirculation, treatment, discharge and disinfection in a single unit to simplify installation and eliminate the need for additional tanks, basins, risers and lids. The treatment

system can be maintained with an annual service call. Filters and textile media are accessible and cleanable. Panels are touchsafe. No blowers are needed for the passively vented system. A UV disinfection unit is available. 800/348-9843; www.orenco.com.

# **PolyPortables**

Earth Works Water Treat from PolyPortables neutralizes foul odors, reduces



corrosive hydrogen sulfide, mercaptan and ammonia compounds and detoxifies wastewater by binding toxic heavy metals. It also provides nutritional building blocks for bacteria, acting like a super vitamin that aids the naturally occurring bacteria to help deodorize, detoxify and reduce solids, including fats, oils and grease. The 100-percent organic material acts

like a macromolecular sponge, absorbing 1,000 times its own weight. 880/241-7951; www.polyportables.com.

# **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. Each 48-ounce bottle contains a six-month supply for septic tank up to 1,500 gallons in size. 855/776-7439; www.rid-x.com/professionals.



Reckitt Benckiser/RID-X

# **Tuf-Tite**

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# Septic Services Inc.

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The impeller is directly connected to the motor shaft for force with minimal friction. The oil-free, low-maintenance unit is 9.5 inches long, 9.75 inches wide and 9.81 inches tall and weighs 28 lbs. 800/536-5564; www.septicserv.com.

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that slip together. Custom sizes and configurations are available. 888/999-3290; www.simtechfilter.com.

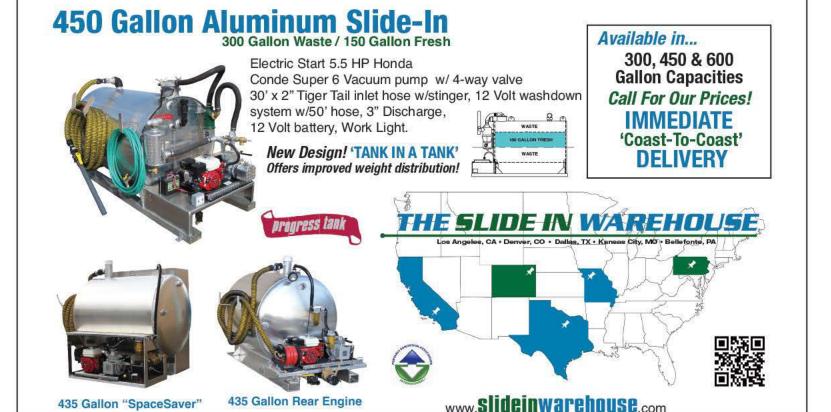
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Patrick Astre is a certified financial planner and founder of Astre Planning Inc. He is the author of the books, This is Not Your Parents' Retirement and Educated Investing and the Four Seasons of Money (Entrepreneur Media Publishing). Contact him at 631/744-9100 or visit www.ProsperousBoomer.com.



# TAX TIME TIPS

# FOLLOW A FINANCIAL ROADMAP FOR NAVIGATING THE EVER-GROWING LIST OF IRS RULES TO AVOID A DREADED AUDIT AND PRESERVE THE MOST INCOME

By Patrick Astre

hile death and taxes are inevitable, death doesn't worsen every time Congress meets. The constant push-pull of special interests and partisan politics left us with an income tax system that is convoluted and overly complex.

The system has one saving grace: It's semi-voluntary. For example, everyone knows that if you own a home, you can deduct property taxes and mortgage interest. But you are not required to. You could file form 1040A or 1040EZ, forego deductions and "volunteer" to pay more taxes.

There are more opportunities in the IRC (Internal Revenue Code) than the common deductions people confine themselves to. These opportunities are not well known and are often ignored even by tax planners, accountants and attorneys. By ignoring them, you will have "volunteered" to pay more taxes.

There are a number of highly effective strategies that result in paying less income tax legally without triggering audits. These strategies enhance retirement, estate and investment planning.

# **WATCH OUT FOR AUDIT TRIGGERS**

Flexible or not, the strongest person's knees may turn to Jell-O when the dreaded IRS audit notice lands in his or her mailbox.

There are differing degrees and levels of audits, yet they all have one thing in common: They are triggered by what people put in their tax returns. The IRS has something called *discriminate function* programmed into their computers. When the numbers on a return fall under certain criteria, the return is flagged for manual review.

An agent will determine if that return should be audited. Although the specific criteria are secret, we know that certain things will trigger audits: ratios and unusually high deductions, and certain tax shelters and strategies. You should claim these deductions if you have incurred them, but retain documented proof such as receipts and canceled checks.

Common triggers for an IRS audit include:

- Earned Income Credit (EIC). The EIC is a cash credit for low-income workers with dependents. In 1997, 25.6 percent of EIC were erroneous or fraudulent. Congress meant well, but the rules were so complex and changed so much that low-income persons couldn't claim EIC without professional help they often cannot afford. Be careful with this one!
- **Round Numbers.** Deductions rounded off to the nearest hundred or thousand will lead the IRS to think the taxpayer is guessing rather than determining from accurate records.

- Answer all questions and boxes. Leaving a box blank doesn't translate to "no." Questions on various returns involving trusts, partnerships, foreign accounts, accounting methods, etc. should be answered. Don't leave them blank.
- Categorize deductions. Large deductions headed "Miscellaneous" or with vague wording may lead the IRS to decide you can't prove it.

THERE ARE DIFFERING DEGREES AND LEVELS OF AUDITS, YET THEY ALL HAVE ONE THING IN COMMON: THEY ARE TRIGGERED BY WHAT PEOPLE PUT IN THEIR TAX RETURNS.

# THE RIGHT TAX PREPARER

You are responsible for your return. If there are errors triggering an examination, you are the one who will be audited. When the IRS suspects tax preparers of incompetence or misconduct, it can force them to produce lists of clients who may face examination.

A few years ago this happened to a mass-preparation firm in New York. Preparers would ask the client how much refund they wanted, and then would fraudulently increase the charitable deduction to get the refund. IRS computers picked up the pattern, the firm closed and hundreds of their clients were audited.

Here are some guidelines to use when choosing a preparer:

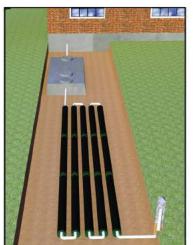
- Always use preparers with certifications. EAs (Enrolled Agents), CPAs and attorneys are the only ones authorized by the Treasury Department to represent clients before the IRS. There are many good preparers out there without certification, but how would you know which are good and which are not?
- Never accept a return without the preparer's tax ID number and signature. This is required by law. If it is left blank or states "Self Prepared" there's something wrong!
- **Review your return.** Are the figures on the return the ones you gave? Ask questions. Even the best preparers can make a mistake, especially during the pressures of a busy tax season.



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# SEEK LEGAL DEDUCTIONS

There are plenty of tax savings in the system without resorting to illegal strategies that can come back to bite you. Stay away from tax evasion schemes such as foreign trusts, secret offshore bank accounts and other shady deals. Here are a few legitimate strategies you can implement now:

- Bundle deductions in a year you expect more taxable income. Pay the first property tax installment for next year in the current year. Pay your January State Estimated payment in December (deductible on Federal). If possible, arrange medical expenses such as dental and eyeglasses in that same year.
- Consider a tax credit program. A credit is a dollar-for-dollar reduction of your taxes. There are a number of credit programs backed by the government for social reasons. Not all may be right for you but anyone in a high tax bracket should consider them.
- **Buy a house.** Points paid on the mortgage, interest and property taxes are all deductible. If you rent, you don't get to deduct anything. Your rent goes to pay those things and your landlord deducts them. This is the best deduction of all.
- Contribute to an IRA or maximize your 401(k) or 403(b) contributions. Since it comes off the top of your income, you will save 27.5 percent on federal taxes and a smaller amount on state taxes in the average brackets.

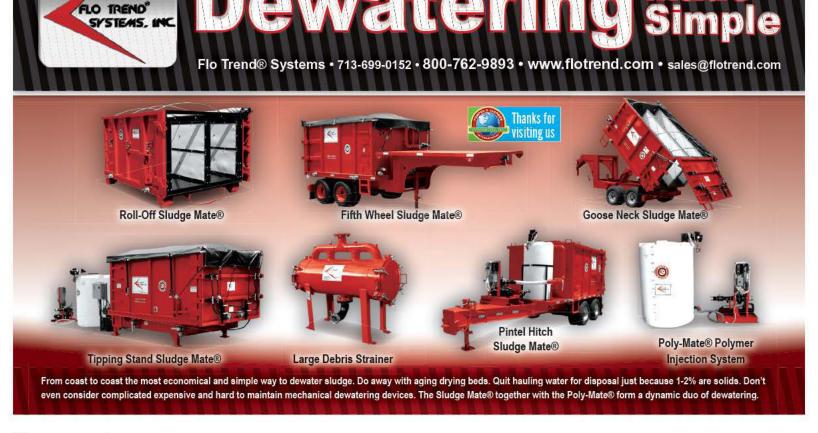
You can't spend it until you retire, but so what? You're going to get older and need money in retirement; where will it come from if you don't accumulate it?

# **AUDITS MAY RISE**

In recent years IRS audits have dropped for staffing reasons, but are now increasing and average-to-higher income individuals have greater chances for audits in coming years. This is just a small sample of the savings possible with good planning. There's not enough room to list them all, but they're out there waiting for you ... just like the IRS.







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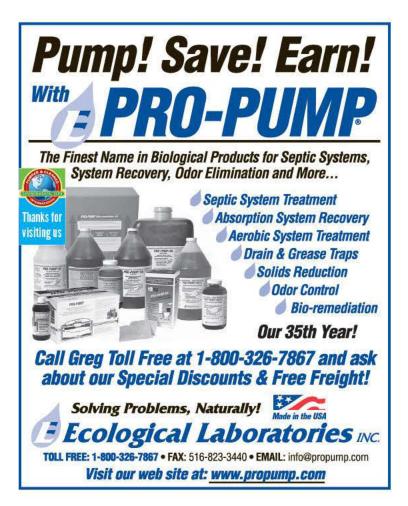
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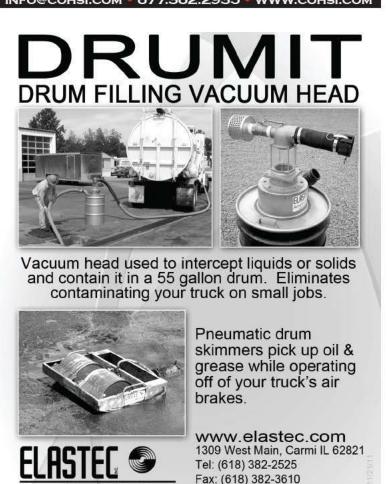
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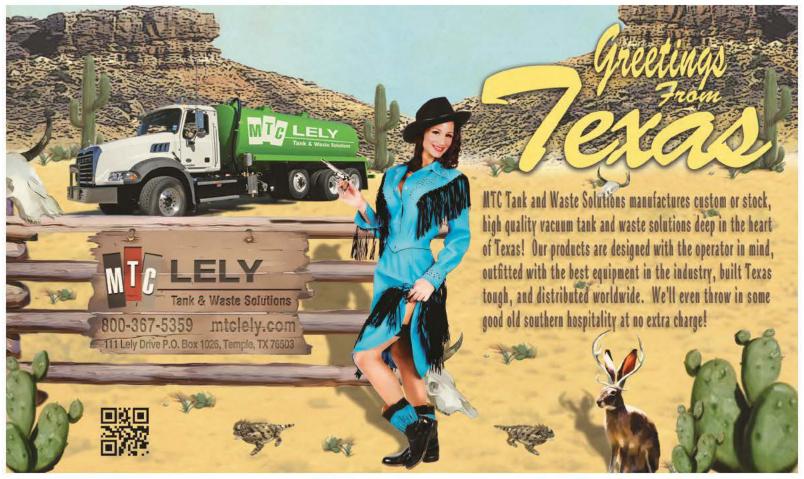






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## THE WORKING END OF THE HOSE

## DO YOU SIMPLY DROP THE HOSE INTO A TANK OR USE A SPECIAL FITTING TO KEEP YOUR SUCTION SYSTEM CLEAN AND WORKING EFFICIENTLY?

This feature in Pumper reports noteworthy conversations that take place in Pumper Discussion, an email-based forum for industry professionals sponsored by COLE Publishing. Pumper Discussion provides for the exchange of information and ideas on septic and drainfield installation and maintenance, trucks and equipment, portable sanitation, chemicals and additives. To find out more about Pumper Discussion, or to subscribe, visit www.pumper.com.

Information and advice in Overheard Online is offered in good faith by industry professionals. However, readers should consult in depth with appropriate industry sources before applying such advice to a specific business situation.

#### **Question:**

I am setting up a vacuum truck in New Zealand and wonder what you put on the end of your hose and into the tank? I have seen one idea that uses a length of aluminum tube, but wasn't sure how it's attached to the camlock fitting. I am also keen on a Crust Buster, but the cost of freight and the exchange rate will make it an expensive purchase.

Any advice would be appreciated.

#### **Answers:**

Are you talking about a normal pump truck or a vacuum loader? For the vacuum truck, we put the hose directly into the tank. I don't know anyone around here using an aluminum hose attachment. Usually that's only for vacuum loaders, although it wouldn't hurt anything to use it on a vacuum truck. The only attachment I really know about is the Power Booster, although you need to have an air attachment off the truck.

4 4 4

I use a piece of ABS pipe about 4 or 5 feet long. I use camlock fittings to attach it. This keeps the end of the hose clean and I can more easily direct it where I want it. We've been using this method for 30 years.

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We also use a 3-inch PVC pipe, about 4 feet long, attached with a camlock. It works great. The Crust Buster is one of the best things I have bought for pumping septic tanks.

I USE A PIECE OF ABS PIPE ABOUT 4 OR 5 FEET LONG. I USE CAMLOCK FITTINGS TO ATTACH IT. THIS KEEPS THE END OF THE HOSE CLEAN AND I CAN MORE EASILY DIRECT IT WHERE I WANT IT. WE'VE BEEN USING THIS METHOD FOR 30 YEARS.

You have to get a 3-inch camlock with female threads on one end and a PVC coupling with male threads on one end.

#### Do I need a stronger pump?

I have a 1,500-gallon tank with a pump that produces 230 cfm free air and 200 cfm at 15 inches Hg. I want to upgrade to something faster. On a difficult pull, the pump gets hot and slow. I understand that more cfm just gets you to maximum vacuum quicker. So would it be better to go to a pump with 300 cfm at 15 inches Hg and give it more air to keep it cooler, or go to a water-cooled pump at 230 cfm at 24 inches Hg? My 15-inch Hg pump does it now, but you have to fight it. I know that 300-350 cfm at 24 inches Hg would do it, but that's like driving a nail with an 8-pound sledgehammer. I would like to hear from working pumpers.

4 4 4

I'm not sure if this will answer your questions, but we have a 2,500-gallon tank with an air-cooled 350 cfm pump. It works OK. On long pulls or steep pulls, it slows and you have to blend some air with the septage or you will be on the job all day. If we did it again, we would go with a larger cfm pump and most likely water-cooled.

+ + +

We just purchased a truck about a year ago with 3,600-gallon tank and a 425 cfm pump. It's a great liquid-cooled pump. ■







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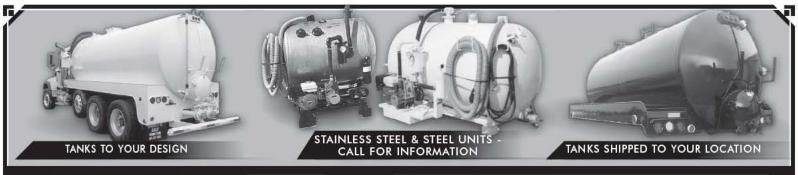
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wners and operators Herb and Rob Dollar purchased a 2002 International tractor with a Caterpillar C-12 engine and 18-speed transmission and took it to T2 Services Inc. in nearby Spokane, Wash., for a build out. The truck was outfitted with a drop axle and 3,300-gallon steel tank with vacuum provided by a Masport HXL 400 pump. It has two topside manways and 36-inch rear manway, 3-inch suction and 4-inch discharge valves and heated valves. The truck has strobe lights front and rear, chrome horns, dual 6-inch chrome exhaust stacks and aluminum wheels all the way around. The truck also has a tool box between the cab and tank. Mountain- and woodland-themed graphics were designed by Sam Dollar and executed by Van Design. The truck is used for residential and commercial septic and grease trap pumping.

#### SHOW US YOURS!

Got a truck with real WOW appeal? Show it off to Pumper readers! Send photos of your truck after it has been lettered with your company name. Any industry-related truck is acceptable. Please limit your submission to one truck only.

Your Classy Truck submission must include your name, company name, mailing address, phone number, and details about the truck, including tank size, cab/chassis information, pump information, the company that built the truck, and any other details you consider important. In particular, tell us what features of the truck help make your work life more efficient and more profitable. E-mail your materials to editor@pumper.com or mail to Editor, Pumper, P.O. Box 220, Three Lakes, WI 54562. We look forward to hearing from you!





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### **MEDIA FILTER FAILURE**

Jim Anderson, Ph.D., is an emeritus professor at the University of Minnesota Department of Soil Water and Climate, education coordinator for the National Association of Wastewater Transporters, and a recipient of the pumping industry's Ralph Macchio Lifetime Achievement Award. Send Anderson questions about septic system maintenance and operation by email to editor@pumper.com.



## A COMPREHENSIVE SYSTEM EVALUATION IS SOMETIMES REQUIRED TO GET TO THE BOTTOM OF A POORLY PERFORMING SAND FILTER

**By Jim Anderson** 

QUESTION: What can cause a media filter to go anaerobic?

ANSWER: The person asking this question explained he installs and services generic sand filters, and that one has been a particular problem. After about six months of operation, the water "just quits going through the sand and ponds on top." He further explained that while the sand was somewhat discolored, there was no biomat evident.

As with most troubleshooting, there are a number of possible causes and you have to work through them to reach a solution.

A generic or public domain single pass sand filter is typically confined in a watertight container or liner. Effluent from the septic tank is distributed through a pressure distribution network over the sand. This moves the effluent uniformly across the filter surface; maintaining unsaturated flow through the media and promoting aerobic treatment.

Single pass sand filters are effective at removing BOD-5, Total Suspended Solids (TSS), bacteria, and nitrifying the effluent. After effluent flows through 2 feet of sand, it is collected in an under-drain system and delivered to the soil for final dispersal, either through gravity or pressure distribution.

#### START THE INVESTIGATION

Several areas should be investigated when problems arise with sand filters or media filters in general. Start by evaluating the amount of effluent being delivered to the filter to determine if the filter is simply being hydraulically overloaded. Single pass sand filters are usually designed to accept 1.0 gpd per square foot of filter area. To put this another way, to handle the estimated sewage flow from a four bedroom house (600 gpd) requires a sand filter 10 feet by 60 feet to provide the required 600 square feet of treatment area.

The problem may simply be the result of using too much water. Since a pump is involved and the most common method of delivery is through use of a timer, check the run time to determine how many gallons are delivered to the system.

Another common failure is that the system is being organically overloaded: The strength of the septic tank effluent is too high, causing the pores to become plugged as a biomat develops at the filter surface. If the BOD-5 of the effluent exceeds about 150 mg/l, and the TSS is greater than 60mg/l, or fats, oils and grease (FOG) exceed 30 mg/l, the filter may not be able to adequately treat the waste. This could indicate that the septic tank needs to be cleaned more frequently and/or water use and waste generation need to be changed.

Next is the quality of the sand being used as filter media: If the sand does not meet design specifications, the pore size between the sand grains may limit wastewater movement and air diffusion through the sand. Troubleshooting this requires taking sand samples; having a laboratory determine the particle or grain size distribution, and comparing those values with the sand specified in the design.

Two key specifications should be compared. They are effective size (ES) and the uniformity coefficient (UC). ES is the grain diameter at which 10 percent of

the sample by weight is finer (ES=D10). Uniformity coefficient is the diameter at which 60 percent of the sample is finer (D60) divided by the D10 number. This provides a measure of the uniformity of sand grain size. If D60 and D10 are the same number, the UC is 1. As the UC moves toward 5, the sand has a variety of grain sizes.

PREVENT SURFACE RUNOFF INTO THE SAND FILTER. ANY EXCESS WATER ENTERING THE FILTER CAN CONTRIBUTE TO A HYDRAULIC OVERLOAD, CAUSING THE SYSTEM TO GO ANAEROBIC. PAY ATTENTION TO THE LANDSCAPING: OBSERVE IF THERE IS RUNOFF FROM ROOFS, DRIVEWAYS OR OTHER IMPERMEABLE SURFACES.

#### WATCH FOR DRAINAGE

A larger value indicates less uniformity and less pore space. The grain size curves obtained for the samples should be compared to the values for the sand specification in the design. If they don't match, this could be the source of the problem.

Drainage from the bottom of the sand filter is another problem area. Typically there is a gradation of rock placed around the drainage pipe: 4-inch Schedule 40 PVC with 1/4 inch slots spaced 4 inches apart and facing up at the 12 o'clock position. Around and 2 inches over the pipe the rock should be 0.5-1.0 inch in diameter, clean and washed. Over the top of this, 2-3 inches of pea rock 3/8 inch in diameter should be placed to prevent sand from entering and plugging the drainage pipe.

Filter fabric should not be placed over the rock. This can create a place for biological growth, plugging and limiting flow out of the sand causing it to go anaerobic. The outlet piping should be checked to make sure that flow out of the filter is not limited through a blockage, poorly laid pipe or other obstruction.

On single pass sand filters, the system cover presents another common installation mistake that can lead to an anaerobic filter. The idea of the sand filter (any media filter) is to provide aerobic treatment. Anything that limits oxygen exchange will cause the filter to work less efficiently.

Backfill over the system should not be tight clay soil, but rather a sandy loam type of topsoil that will allow for oxygen exchange. Since media filters are often used to help overcome soil problems – and tight clay soils being a common problem – one mistake to avoid is the use of clay material from the excavation as the finishing material.

One final note of caution: Prevent surface runoff into the sand filter. Any excess water entering the filter can contribute to hydraulic overload, causing the system to go anaerobic. Pay attention to the landscaping: Observe if there is runoff from roofs, driveways or other impermeable surfaces.



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#### **Manitou Forklifts, Americas join forces**

Manitou Americas Inc. has joined with Manitou Forklifts Canada, combining sales, service and marketing support teams.



David Thomas

## SJE-Rhombus names Thomas president

SJE-Rhombus named David Thomas president/ director of standard products. He will be responsible for the company's sump effluent and sewage standard products controls group, focusing on operations, improvement and growth.

#### **Werts Welding opens Montana branch**

Werts Welding & Tank Service Inc., supplier of tank trailer parts, opened a branch in Billings, Mont. The facility will supply parts for the dry bulk, petroleum and liquid hauling industry.

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#### D & W Diesel opens New Jersey facility

D & W Diesel Inc., headquartered in Auburn, N.Y., opened a location in Cinnaminson, N.J. Jerry Cignarella is the branch manager. Jake Humphrey and Craig Marturano joined the company as sales representatives for the Philadelphia area. D & W distributes and remanufactures engine components and tank truck equipment.

#### PolyJohn manager named to music hall of fame

David Wall, western area business manager for PolyJohn Enterprises, was inducted into the Oregon Music Hall of Fame. Wall was a vocalist and guitarist for



Sequel in the 1970s and 1980s, and was an opening act for such groups as KISS, Journey, Sammy Hagar, Bryan Adams, Kenny Loggins, Night Ranger and Loverboy.



David Wall playing at a Journey show.

## NEFCO names VP of engineering, business development

NEFCO (New England Fertilizer Co.), a
Massachusetts-based biosolids processing company,
named Larry Bishop, P.E., vice president of engineering
and business development. Bishop has 20 years
experience in the design, construction and operation of
treatment and biosolids management and environmental
facilities, including liquid sludge conveyance, developing



Larry Bishop

facilities, including liquid sludge conveyance, dewatering and thermal drying processes.



## Fruitland's Peter Cioruch passes away

Peter "Pete" Cioruch, a long-time employee of Fruitland Tool & Mfg., passed away Feb. 14. He was 59. Cioruch started working for the Stoney Creek, Ontario, Canada, vacuum pump and accessories manufacturer in 1996. Cioruch developed his industry knowledge on the manufacturing floor, and became a respected sales

Peter Cioruch

leader, the company said in a statement. In addition to his career, Cioruch was an athlete and craftsman. He enjoyed snowboarding, windsurfing, motorcycle racing, mountain biking, and building custom motorcycles and go-carts. ■

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The new Durasucker vacuum truck, manufactured by Super Products LLC, marks the company's first entry into the liquid-vacuum truck market.

"We've always had our eye on this market, and felt it was something that would complement our product line, given our 40 years of manufacturing experience and a loyal customer base," says Dan Koziczkowski, product manager. "It's aimed mainly at contractors that vacuum up liquids and slurries, and for hazardous-waste applications."

The Durasucker is DOT 412-approved for hauling hazardous waste on highways. That gives conventional industrial-waste contractors and portable-waste pumpers and haulers the flexibility to enter a lucrative market and generate a new revenue stream.

"The ability to vacuum and transport hazardous waste moves the Durasucker one step up from a conventional, non-DOT vacuum truck," Koziczkowski says.

The Durasucker features a full-opening rear hatch; a hydraulic hoist tilts the tank up to 50 degrees for easier and faster unloading, which improves productivity, Koziczkowski notes.

"The truck also has the capability of producing both vacuum and pressure discharge," he adds. "That offers contractors more flexibility than a truck that features only gravity discharge."

For pressure discharge, contractors use a 6-inch-diameter, air-operated, self-closing discharge valve. Vacuum is achieved through a 4-inch port. Both use conventional couplings.

The unit features a 3,200-gallon, carbon-steel tank with an outside diameter of 72 inches; an external rotary float gauge with a 9-inch stainless steel float ball; an air-engaged, heavy-duty PTO pump drive with a hydraulic pump; primary and secondary shutoff valves; hose hooks, trays and fenders; LED DOT lighting; one rear-mounted LED floodlight; and a bumper with heavy-duty under-ride protection and a split for hose pass-through.

An RCF500 rotary vane pump, made by Fruitland Tool & Mfg., generates maximum vacuum power of 27 inches Hg, pressure of 35 psi and 350 cfm. It also offers automatic lubrication; a four-way valve for vacuum and pressure; and an oil-catch muffler with drain valve. 800/837-971; www.superproductscorp.com.

## Presto Lifts hand pallet trucks

**Rol-Lift hand pallet trucks** from **Presto Lifts Inc.** have a lift capacity of 4,500 to 6,500 pounds and fork lengths from 48 to 72 inches. Standard and heavy-duty models are available in 20.5- and 27-inch widths. **800/343-9322; www.prestolifts.com.** 





#### Worksaver pallet fork

The 3784 skid-steer pallet fork from Worksaver Inc. has a one-piece backstop with class II forks rated at 4,000 pounds for the pair. The fork has an all-welded design and fits tractor loaders that use skid-steer attaching systems. 217/324-5973; www.worksaver.com.

#### **FLEXHAUST Tiger Tail hose**

The **Tiger Tail liquid suction and pumping hose** from **FLEXHAUST** combines durability and flexibility for waste evacuation and septic pumping. The polyethylene copolymer hose is reinforced with integral polyethylene helix, has a smooth interior, is kink resistant and 10 percent heavier than previous versions. The abrasion-resistant hose features factory-installed leak-proof polyweld cuffs and rounded external cap that slides over asphalt and concrete surfaces. The hose has an operating range of -40 degrees to 140 degrees F and is available in 1.5-, 2-, 3- and



4-inch I.D. sizes in 3- to 50-foot lengths. 800/343-0428; www.flexaust.com.



## Subsurface Supply industrial vacuum system

The IVAC PV500 sand, sump, rock, slurry and water handling industrial vacuum system from Subsurface Supply Inc. is capable of moving materials in industrial and environmental cleanups. The skid-mounted unit weighs 1,800

pounds, is 72 inches long, 36 inches wide and 74 inches high. The system delivers up to 100 psi, 500 cfm and 25 inches Hg. Discharge pressure is fully adjustable (1-100 psi). It has a vertical vacuum lift up to 150 feet, vertical discharge up to 500 feet and horizontal vacuum of 500 feet, horizontal discharge up to 10,000 feet. The control panel can be powered by a 12-volt DC or an intrinsically SAFE option is available for hazardous environments. 605/838-8384; www.subsurfacesupply.com. ■







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#### **Excellence in Service Award Winner Named**

By Courtney Peterson

he 2011 National Association of Wastewater Transporters Excellence in Service Award was presented to Jack King, inspector for the New Mexico Environmental Department. The award recognizes King for exceptional accomplishments in his service to the community and to the wastewater profession. The award was presented at the Pumper and Cleaner Environmental Expo International in Indianapolis Feb. 29.

"His work has inspired a respect for people in the industry and raised the bar for the quality of services delivered. Jack King is a rare combination of tough inspector and good friend," said nominator Jace Ensor, president of Mountain Top Inc., in Ruidoso, N.M., and president of the New Mexico Onsite Wastewater Association.



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#### **Hydraulic Load Test Update**

It was announced that there was a draft version of a hydraulic load test standard available on the NAWT website. This standard is meant to cover procedures for conducting a hydraulic load test as a part of a system inspection, done on existing systems that are occupied or vacant. If you want to read and comment on the draft standard, you can access it at NAWT.org.

INTERESTED IN TAKING A ONE-HOUR OPERATION AND MAINTENANCE COURSE ONLINE? THERE IS A NEW HYBRID O & M COURSE BEING OFFERED IN APRIL. FOR MORE INFORMATION, GO TO WWW.NAWT.ORG.

There have been a number of comments received from various practitioners from across the country. In addition, it has spurred discussion in both the *Pumper* and *Onsite Installer* magazines. So one of the purposes of posting a standard has been accomplished! It has gotten people to think about these tests, how they are conducted and how they are interpreted. We would encourage you to look at the draft standard and provide your perspective on what you think is good and what is not.

We would like to make one point very clear: This is a draft standard for discussion. It has not been adopted by NAWT; that may or may not happen in the future. There is a lot of discussion about the amount of water used in the test, the timing, and differences if a house is vacant, such as, during foreclosure and the use of inspection ports to assist in inspections. Please take time to give us your perspective on the draft as a person that does the work. We may not come to a consensus on what should be done, but the discussion will be valuable to everyone involved.

#### **Waste Treatment Spreadsheet**

You may have been part of the discussion about our new waste treatment spreadsheet during NAWT Education Day seminars at the Pumper & Cleaner Expo. This past year, Todd Frank, son of Tom and Carol Frank, participated in an internship with NAWT. One of the tasks he performed was to put together a spreadsheet that members can use to evaluate the potential costs of starting their own septage treatment facility.

This spreadsheet allows you to work through potential costs of developing a facility based on your situation. You also can find this spreadsheet on the NAWT website when you log into your personal account. If you need login or password information, please call or email the NAWT office and it can be provided. Again, we would like to hear what members think of the spreadsheet and whether you feel it is a useful tool for considering treatment facility costs.

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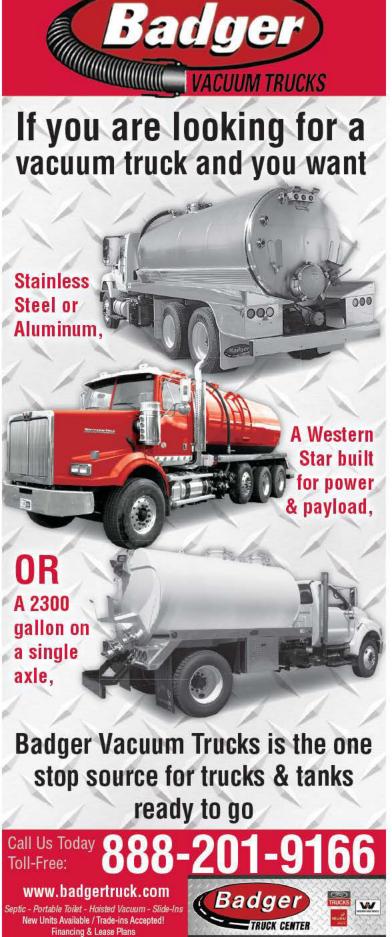
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2000 INTL 2554 Combo Sewer Truck, Intl Dt530E Diesel, Allison 3060 Auto Trans., A/B, Vac-Con V350 OSHA Combo Sewer Cleaner, 3 Fans, 5 Yd. Debris Tank, 6 Ft. Tele Boom, Cummins Rear Diesel, 69,331 Miles. Lot #3016447

## NOWRA CONFERENCE

### IT'S ALL ABOUT WATER

## THE 2012 NOWRA CONFERENCE FOCUSES ON NONTRADITIONAL WATER AND WASTEWATER MANAGEMENT AND NEW ENGLAND ONSITE ISSUES

The National Onsite Wastewater Recycling Association's 21st Annual Technical and Education Conference will focus on issues affecting wastewater management in New England, the Northeast and the Mid-Atlantic (U.S. Environmental Protection Agency regions 1, 2 and 3).

Co-hosted by the Yankee Onsite Wastewater Association and held at the Biltmore Hotel in Providence, R.I., April 2-5, the conference will highlight innovative technologies and stormwater best management practices that are part of the onsite wastewater recycling world.

Educational sessions include the 4th Northeast Onsite Short Course featuring NOWRA's A to Z course, a technology track and a track focusing on New England issues.

"Attendees will find the challenges similar to those faced by many policymakers and professionals in wastewater management across the country," says NOWRA executive director Eric Casey. "For example, the issue surrounding Cape Cod is how small communities will deal with failing onsite systems and the cost of replacing them.

"In Connecticut, the issue is regulators disputing with contractors over how to install onsite systems. The Rhode Island legislature banned cesspools, but the issue there is the unwillingness of authorities to enforce it."

More than 30 vendors will showcase their offerings in the Trade Hall. An additional attraction will be the Onsite Jeopardy game show. Attendees will be given clues to questions asked during the game and must find the answers by visiting vendors.

A tour of commercial systems in Connecticut includes a SoilAir system from Geomatrix Systems rejuvenating sand filters serving a hotel, condominium complex and marina with flows of 15,000 gpd, and a SoilAir unit rejuvenating a healthcare facility system. Attendees will inspect the Shoreline Sanitation Septage processing plant and explore alternative media as field inspectors use cameras to troubleshoot absorption systems and look at the geometry of advanced high sidewall surface area/low storage volume and geotextile products.

George Heufelder, Barnstable County health director, will lead a tour of the Massachusetts Alternative Septic System Test Center, launched in 1999 to test innovative onsite technologies. He will discuss each technology being tested, then show nutrient removal and drainfield rejuvenation technologies and discuss his findings on pharmaceutical degradation in various treatment systems.







### NSF ESTABLISHES TASK GROUP TO ADDRESS FILTER CONCERNS

By Theo Terry

t the NSF International Wastewater Joint Committee Meeting in Ann Arbor, Mich., on Sept. 27-28, the committee chair established a task group to look into two reported areas of concern with effluent filters: the relationship of proven versus manufacturers' reported service-life of filters, and how filter design affects venting of septic tank gases.

The task group will investigate the need to add test parameters and criteria to the existing NSF/ANSI Standard 46, Evaluation of Components and Devices Used in Wastewater Treatment Systems for effluent filters, and whether to add effluent filters to NSF/ANSI Standard 360, Wastewater Treatment Systems – Field Performance Verification to evaluate service-life claims made by manufacturers.

The group held its first meeting in December, and two issues were addressed. The first was how long screens and filters will actually go between service calls. At present, the regulatory community must rely on what manufacturers report in their literature about flow rates to determine service life. Some task group members feel a performance test to evaluate service life should be added to Standard 46 to protect homeowners' investments.

The second issue is an emerging concern that some effluent screens and filters might be restricting the flow of gases out of the septic tank

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and potentially creating problems in the tanks themselves, or for the downstream treatment components and dispersal fields.

The history of Standard 46 as it relates to effluent filters began in 1997 when Florida became the first state to require them, followed by Georgia and North Carolina. It soon became clear that minimum official standards were needed to protect homeowners because products were being released that had not been tested in septic system environments or for actual screening capabilities in the waste stream.

An initial task group was formed, and from this group came standards requiring that effluent filters or screens:

- At a minimum, remove solids larger than 3/16 inch.
- Pass a structural integrity test consisting of inserting and removing the filter from the case four times as a simulation of service stress.
- Allow no beads to pass through in a bypass test simulating a clogged filter.

This became known as Standard 46, and the first effluent screens (filters) were certified to this Standard in early 2000.

A few years later, a second task group was formed to address a concern arising from field reports that some filters were dislodging from their housings once they became plugged and allowing solids to bypass out to the dispersal system.

At this same time, the second task group required that the particle size for certification be either 1/8 or 1/16 inch. This change brought the national Standard 46 more in line with state onsite codes, which usually specified one of these smaller sizes. Also, a more rigorous structural integrity test was added to the standard, where the filter was removed and inserted 100 times in liquid, and five times in a dry condition to simulate the stresses that might be placed on the filter during its service life.

To address the issue from field reports that some cartridges were becoming dislodged from their cases when plugged, an upward force test was added to the standard. This is a more demanding stress test, and only filters tested since 2010 have undergone this test as part of the certification process.

Currently, Standard 46 states that if a single bead of either the 1/16- or 1/8-inch size were to bypass the screen or filter cartridge, the product would fail and would not be certified to Standard 46. As of Jan. 31, 2012, all effluent screens and filters on the market had to pass this more stringent version or lose Standard 46 certification.

Certified products must carry the NSF Mark. Practitioners can view the status of any NSF-certified effluent screen or filter by visiting http://nsf.org/Certified/Wastewater.

Onsite wastewater component manufacturers are constantly looking to improve their products, working with NSF International. Regulators, designers, and service providers who want to work on the new filter project may contact the third task group chairperson Tom Konsler (tkonsler@co.orange.nc.us) or Mindy Costello (mcostello@nsf.org).

Theo Terry is president/CEO of Bear Onsite, an effluent filter manufacturer. ■





## Association News

By Scottie Dayton

#### **IOWA**

#### **Advanced System Curriculum Update**

Members of the Iowa Onsite Waste Water Association completed their fourth quarter of developing a curriculum for maintaining advanced onsite systems. The association uses the Habitat for Humanity site in Waverly to pull monthly effluent samples from 12 systems and to work with manufacturers videotaping maintenance procedures. Orenco, Bio-Microbics and Quanics systems were taped in the latest session. Funding is through a \$100,000 USDA grant. Once completed, the materials will be available for nationwide operation and maintenance training programs.

#### CANADA

#### Training Standards, Regulations Mulled

The Western Canada Onsite Wastewater Management Association worked with the Applied Science, Technologies and Technicians of British Columbia to discuss training standards, requirements, methods and sewage system regulation. The Ministry of Health invited the association to comment on the upcoming draft of the *Sewerage System Standard Practice Manual*. In Saskatchewan, the organization worked with regulators to modify the training program to meet provincial requirements.

The association also worked with Alberta members to address lack of enforcement and inconsistent permitting and inspection practices. It asked them to provide examples of code violations and practices not to industry standards, then forwarded them to regulators.

After meeting with officials, members had a better understanding of the safety codes and enforcement process, and officials gained a stronger appreciation of the association's desire to see proper industry practices maintained across the province.

#### **GEORGIA**

#### Act Would Help Preserve Onsite Systems

The Georgia Onsite Wastewater Association proposed the Onsite Septic System Owners' Protection Act to prohibit authorities from requiring single-family home or farm owners served by onsite systems to connect to a sewer. The proposal also would prevent officials from prohibiting system repairs or maintenance needed for systems to remain compliant. Members talked to state senators and representatives to seek support and assess the bill's chance of passage.

The association re-entered the full-state training arena after the University of Georgia stopped providing continuing education courses. The organization's goal is to provide hands-on seminars with as few classroom hours as possible.

Dart Kendall of Advanced Septic was elected the association's new president, John Ford of Infiltrator Systems was named president-elect, and Susan Taylor of Taylor Services Restrooms 2 Go was nominated to the board.

## Training & Education

#### Third-party training format

The December issue of *Pumper* stated that the Pennsylvania Department of Environmental Protection authorized the Pennsylvania

Septage Management Association (PSMA) to take over its classroom-based Sewage Enforcement Officer training program. To clarify, the DEP retains oversight of the SEO training program but is no longer offering classroom-based training. They are transitioning that to a third-party training format, and PSMA is one of several organizations approved by the DEP to facilitate.

#### Homeowner education program

The University of Minnesota Onsite Sewage Treatment Program worked with local programs to develop homeowner education campaigns including brochures, seminars on rebate programs, and distributing the *Septic System Owner's Guide* as a part of the permitting process. To begin a homeowner education program, contact the OSTP staff at 800/322-8642 or septic@umn.edu.

#### **Alabama**

Licensing classes are the joint effort of the Alabama Onsite Wastewater Association and University of West Alabama. Courses are at the UWA Livingston campus:

- May 2-4 Advanced Installer II Class
- May 23-25 Basic Installer Class

Call the training center at 205/652-3803 or visit http://aowatc.uwa.edu.

#### **Arizona**

The University of Arizona Onsite Wastewater Education Program has these classes:

- April 16-17 Soil and Site Evaluation for Onsite Systems, Tucson
- May 7 Inspecting Pumps and Using Them in Designs for Arizona Onsite Systems, Payson
- May 8 Inspecting Subsurface Drip Dispersal Systems and Using Them in Designs for Arizona Onsite Systems, Payson

Call Kitt Farrell-Poe at 520/621-7221, email kittfp@ag.arizona.edu, or visit http://ag.arizona.edu/waterquality/onsite.

#### Florida

The Florida Onsite Wastewater Association Training Center is offering these courses with master credit hours:

- April 18 Master IV: Low Pressure Distribution System Design Considerations, Port Charlotte
- · April 19 Advanced Treatment Systems II, Hialeah
- May 9 Advanced Treatment Systems II, Tallahassee
- · May 10 Operations and Maintenance B, Jacksonville
- May 14 Master I: Onsite Wastewater Concepts, Mats, Regulation and Application Process, Lake Alfred
- May 15-16 Master II: Intro to Florida Soils and Site Evaluation, Lake Alfred
- May 17-18 Master III: Onsite Construction Permits and Inspections, Lake Alfred

Contact FOWA at 321/363-1590 or www.fowaonsite.com.

#### lowa

The Iowa Onsite Waste Water Association has these courses:

- April 27 Operation and Maintenance Workshop, Emmetsburg
- May 11 Operation and Maintenance Workshop, Creston

Contact Alice Vinsand at 515/225-1051, execdir@iowwa.com, or visit www.iowwa.com.

#### **Kentucky**

The Kentucky Onsite Wastewater Association has six hours of continuing education for certified installers of onsite wastewater disposal systems on April 13 and May 11 at the Bluegrass Community Technical College in Lawrenceburg. Call 270/401-2301 or visit www.kentuckyonsite.org.

#### Minnesota

The University of Minnesota Water Resources Center has these classes:

- · April 2-4 Introduction to Onsite Systems, Cloquet
- · April 5-6 Installing Onsite Systems, Cloquet
- · April 11-13 Basic Onsite System Designs, Brainerd
- · April 18 Design Continuing Education, Alexandria
- April 18-19 Designer/Inspector Continuing Education Combo, Alexandria
- April 19 Inspector Continuing Education, Alexandria
- April 24-27 Advanced Design and Inspection of Onsite Systems, Part 2, St. Cloud
- · April 30-May 2 Maintaining Onsite Systems, Mankato
- April 30-May 4 Maintainer/Service Provider Combo, Mankato
- May 1-4 Service Provider, Mankato
- May 22-24 Basic Onsite System Designs, Farmington
- · May 30-June 1 Soils, Grand Rapids

Call Nick Haig at 800/322-8642 or visit http://septic.umn.edu.

#### Missouri

The Smallflows Organization has these CEU courses:

- · April 17 Selling Systems, Liberty
- April 18 Drip Irrigation, Liberty

Call Tammy Trantham at 417/739-4100 or visit www.mosmallflows.org.

### Calendar

#### March 2-3

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

#### March 4-7

Pennsylvania Association of Sewage Enforcement Officers Conference and Trade Show, Holiday Inn, Grantville. 717/761-8648; www.pa-seo.org.

#### March 19-20

Granite State Designers and Installers Association Spring Septic System Conference & Expo, Radisson Hotel and Conference Center of New Hampshire, Manchester. 603/228-1231; www.gsdia.org.

#### March 29-30

Alabama Onsite Wastewater Association Trade Show, Pelham Civic Complex, Pelham. Call Dave Roll at 334/396-3434 or visit www.aowainfo.org.

#### April 2-5

NOWRA Technical Education Conference and Fourth Northeast Onsite Wastewater Short Course, Providence Biltmore Hotel, Providence, R.I. www.nowra.org.

#### April 15-17

Ontario Onsite Wastewater Association Conference and Exhibition, Deerhurst Resort, Huntsville. Contact Denis Orendt at 905/372-2722 or dorendt@yahoo.ca; www.oowa.org.

#### **New England**

The New England Onsite Wastewater Training Center at the University of Rhode Island in Kingston has these courses:

- · April 12 Bottomless Sand Filter Design and Installation
- April 19 All About Series: Septic Tanks
- April 26 Conventional Onsite Wastewater System Inspection
- April 26-27 Conventional Onsite Wastewater System Inspection and Field Training
- · May 3 Functional Inspections
- · May 10 Innovative and Alternative Technologies
- · May 17 All About Series: Sand Media
- May 31 Installing Advanced Onsite Treatment Systems
- May 31 Innovative and Alternative Technology Field Training at Peckham Farm

Call 401/874-5950 or visit www.uri.edu/ce/wq. For soil courses, call Mark Stolt at 401/874-2915 or email mstolt@uri.edu.

#### **North Carolina**

North Carolina State University has the following courses:

- April 17 Subsurface Wastewater System Operator Training School, Raleigh
- · May 9 Why We Study Soil, Web-based
- · May 16 Formation of Soil, Web-based
- · May 23 Identification and Classification of Soil, Web-based
- May 30 Physical Properties of Soil Texture, Structure and Density, Web-based

Call Joni Tanner at 919/513-1678 or visit www.soil.ncsu.edu/training.

#### **Oregon**

The Chemeketa Community College in Salem has these CEU classes:

- · May 16 Installer
- May 23-24 Maintenance Operator

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

#### Virginia

The Virginia Center for Onsite Wastewater Training is offering "Understand the Septic Tank," a Web-based class from April 2 to May 31. Contact Lydia Shepherd at 434/292-3101 or lydia.shepherd@southside.edu or visit www.southside.edu.

#### Washington

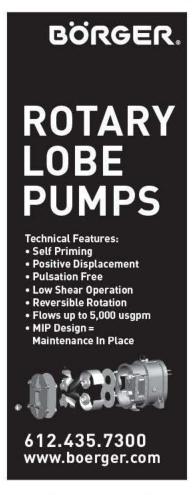
The Washington On-Site Sewage Association and the state Department of Health, in cooperation with Washington State University, are offering these certification courses at the training center in Puyallup unless stated otherwise:

- · April 4 Maintenance Basics
- · April 11 Design of Subsurface Drip Systems
- · April 18 Pumper, Mt. Vernon
- May 1-2 O & M Certification for Proprietary Devices
- · May 16 Design of High-Strength Waste Systems
- May 22 Electrical Control Panels, Bremerton

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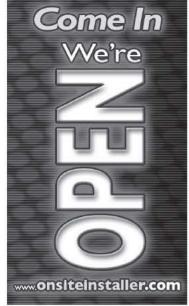
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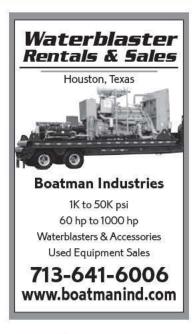








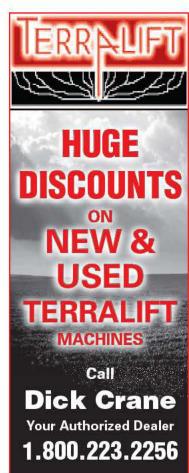
















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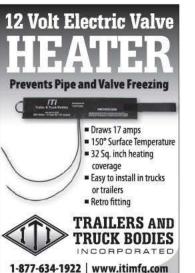
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Multi -Turbo Aerator B series: Set at same air flow as multi-flo aerator. This aerator can produce THREE times more air & agitation than other aerator's in its class. Amps at 3.5 1/3 hp at 3.5 ft., Mechanical seals (waiting for a job).

Roland's 800-717-8807 www.cprservice.org IL P03

#### **BLOWERS**

One (1) very good used Roots 824 PD blower. www.VacuumSalesInc.com, (888) VAC-UNIT (822-8648).

#### BUSINESSES

ARE YOU MOVING TO FLORIDA? Would you like to start a septic and sewer cleaning business? I have license - will sponsor. For more information call Larry at 931-335-3231 or 931-248-1284. (CPBM)

Looking to purchase existing septic businesses in Western CT. All inquiries will be kept confidential. Please call Tony at 203-648-1301, CT. (P04)

For Sale, Successful Portable Restroom Business located in Boise, Idaho. Established 18 years with a loyal customer base, city and government contracts. Grossed \$650,000 last year. 1500 units, 6 International service trucks, 3 flatbeds and 2 sales trucks. Asking price \$550,000. 208-250-6631 Steve, abcsan@att.net, ID.

#### **BUSINESSES**

Full service septic, sewer/drain business-Central NJ. Services: Septic system installation, repairs, pumping, sewer/drain cleaning, excavation, trucking & more. All accounts, A901 license & long list of newer equipment included. Gross \$250,000. covertactionz@ optonline.net or call Glenn at 732-356-5238, leave message.

State approved liquid waste transfer station for sale in Fort Bend County, TX [the fastest growing county in the U.S.A.] Sale includes 2 vacuum trucks and an extensive 6-county, 30-year commercial & residential septic tank cleaning customer base, many of which are repeats due to our A+ rating with the BBB. kcheath@gmail.com. (PBM)

For Sale: Full service septic, sewer/drain cleaning company, Citrus County, Florida. Includes all equipment and accounts, great opportunity for the right person. \$90K. Call Jake at 1-800-625-2608.

Family owned portable toilet business. Owner with health issues forces sale. 500+ units, 4 service trucks, located in beautiful Sacramento, Calif. area. 16 years established business, loyal customers. Serious inquiries only. Leave message; will return calls. 916-343-3326.

(PBM)

#### BUSINESS OPPORTUNITIES

WWW.ROOTERMAN.COM. Franchises available with low flat fee. New concept. Visit web site or call 1-800-700-8062 x26.

National Grease Recycling Inc. Let us teach you how to recycle restaurant's waste fryer grease and oil (yellow grease) only. No trap grease. Big \$. Over 30 years. experience. Will guide you through complete process from collection to processing to marketing to end users. Don't lose your trap business to competitors that offer both services. We also buy cooking oil, unprocessed, anywhere in the country. Call for information. Dewey Walker. 813-752-9535 or 813-758-2552. (PBM)

#### **BUSINESSES WANTED**

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

#### COMPUTER SOFTWARE

Pumper Plus Billing Software: Regularly \$795. Mention this ad in Pumper.com and purchase for only \$595. Pumper Plus is a billing software package from Galaxy Systems, www. galsys.com/pumperdemo.asp, that handles billing for septic pumping and portable toilet service-type companies. Inquire at solu tions@galsys.com or call 800-985-3029.

#### **DEWATERING**

22-yard dewatering box w/steel rolling tops. Does not include filter media or polymer injection system. Asking \$18,000. 770-917-0377,

Parkson,1 meter belt press with rotary drum thickener used to process septic and portable toilet waste. For more info and price call 541-269-5050.

#### 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.

TERRALIFT: Huge discounts on new and used Terralift machines. Call Dick Crane, your authorized dealer, at 1-800-223-2256.(PBM)

#### DRAIN/SEWER CLEANING **EQUIPMENT**



2000 International 2674: Cat C-12. 355 hp, automatic, A/C, double framed, Vactor 2112-36 PD combination sewer cleaner, 12 CY debris tank, flushout system, new 600' jetter hose, new silencer, 6,6000 GVW, 73,000 miles. .....\$99,500

562-926-5015 CA

#### **HAZARDOUS WASTE UNITS**

1995 Mack/Cusco stainless steel MasterVac. DOT certified, MC412, 3,200-gallon dumping tank. 27' Hibon blower with Demagg RFL 100 vacuum pump. KLM Companies 617-909-

90 KW T800 with 3,000 gallon, DOT certified, Presvac stainless steel vacuum tank, Presvac PV750 vacuum pump. KLM Companies 617-909-9044.

1999 Freightliner FL 112 with 2001 KING VAC package: 740 hours on pump, very good condition. \$90,000. 850-685-1031, FL. (C03)

New 3,200 U.S. gallon carbon steel DOT certified 407/412 vacuum tank. Dump type with full open rear door and Presvac PVB 750 vacuum-pressure pump installed on a 2012 Peterbilt 348 cab and chassis. (Stock #13490C) www.VacuumSalesInc.com. (888) VAC-UNIT (822-8648). (PBM)

#### **HAZARDOUS WASTE UNITS**

1999 Freightliner FL112 cab and chassis, pre owned 3,000 U.S. gallon, carbon steel, D.O.T. certified vacuum tank; with a Presvac PVB 750 vacuum-pressure pump installed. (Stock #6157V) www.VacuumSalesInc.com, (888) VAC-UNIT (822-8648).

1997 Freightliner with Presvac, 2,300 gallon, DOT certified vacuum tank, Presvac PV750 vacuum pump with new paint and tank inspections. KLM Companies, 617-909-9044. (P03)



1996 International 4900 Vacuum Truck: 32,900 GVWR, DT466, Allison auto trans., IBEX, 1,750 gallons. DOT tank, IBEX pump, ONLY 6,071 ACTUAL MILES, 11,000 GVWR front, 21,900 GVWR rear, 11R, 22.5 tires, tank serial# 9611001, DOT SPEC, DOT 407/412, SHELL material SA516 GR70, HEAD material SA516 GR70, WELD material MS, TRUCK MILEAGE 6,071, PUMP HOURS 1,723. Asking .....\$29,900 Contact Brian at 765-561-0599 PO3

2009 Freightliner with Presvac, Powervac wet/dry vac with 3,200 gallon, DOT certified vacuum tank with dump and door. Remote controls with full boom and vacuum off-loading pump. 450 hp, tri-axle unit with all options. 900 hours, 15K mileage. Must see. KLM Companies, 617-909-9044.

2012 Freightliner M2 with new Presvac 3,200 gallon stainless steel DOT certified dump and door vacuum tank. Moro vacuum pump. 330 HP. KLM Companies, 617-909-9044. (P03)

1993 White GMC vacuum truck, triple axle, 2875-gallon tank, 176,585 miles. \$19,500 OBO. Lenny 818-612-5148 CA.

2012 Peterbilt triaxle 365 with POWERVAC 3800, High Dump, 3,000 U.S. gallon, D.O.T. 407/412 regulations certified. Sound enclosure type unit. (Stock #13478V) www. VacuumSalesInc.com (888) VAC-UNIT (822-8648)

1998 Mack RD6885 with a 3,000 U.S. gallon DOT certified, carbon steel vacuum tank unit. (Stock #6653V) www.VacuumSalesInc. com, (888) VAC-UNIT (822-8648). (PBM)

2009 Sterling tri-axle LT 9500, low mileage. POWERVAC 3800, 3,250 U.S. gallon, carbon steel. Dump Type; D.O.T. 407/412 regulations. (Stock #4931C) www. VacuumSalesInc.com (888) VAC-UNIT (822-8648). (PBM)

PLACE YOUR AD ONLINE AT www.pumper.com - IT'S ALWAYS THERE TO MEET YOUR BUSY SCHEDULE

#### **HYDRO EXCAVATING EQUIPMENT**

Vactor series 2112 hydroxcavator mounted on a 2001 Sterling cab and chassis. (Stock www.VacuumSalesInc.com (888) VAC-UNIT (822-8648).



1992 Volvo C&C with Vactor 2100 series: 60,715 miles, 2,968 hours, work ready, clean truck. .....\$74,000 Call for more details!

503-969-9545 / 503-682-8000 OR

#### JETTERS-TRAILER

1997 Lely Jetter: 25 hp, 15 gpm, 2,000 psi, 14" steel rims, torsion bar suspension, heavy duty trailer, 4130 Giant pump, 1/2" Kevlar hose, original owner, stored indoors, virtually no use last 5 years, model E1530-17-18 1079487, \$9,240, 612-644-4185, MN, (P03)



Xtreme Flow Hot/Cold Jetter! Model# HJ2TA8536, tandem axle trailer, 35 hp Vanguard 8.5 gpm @ 3,600 psi, 325 gal. water tank, 300' hose, General pump, Fully loaded! Call for special pricing! List \$34,995. On sale for \$29,995. 800-213-3272.

www.hotjetusa.com

CPBM

#### JETTERS-TRUCK



Used 2001 Super Products CAMEL model 200: 6 yard dump Volvo truck, CAT diesel engine, VED7C-275, 275 hp, PD blower, rebuilt Allison automatic transmission, approximate 32,000 miles, late January 2012 availability, F.O.B., NJ. ..\$64,985 P03

Call Joe @ 856-981-5668

#### **JETTERS-TRUCK**

2006 GMC TC6500 cab and chassis with Pipe Hunter trunk mounted jetting unit, 3,000 psi at 50 gpm with a 1,000-gallon water tank, rear mounted hose reel with Jet Eye camera system, 6,800 original miles, like new. \$119,000 sale price. Retails for \$210,000. (Stock #13234) www.VacuumSalesInc.com. (888) VAC-UNIT (822-8648).

#### **JET VACS**

2002 Sterling cab and chassis, Vac-Con industrial machine mounted on a pre owned. (Stock #6917C) www.VacuumSalesInc. com (888) VAC-UNIT (822-8648). (PBM)

2000 Sterling cab and chassis, Vactor series 2110, industrial machine mounted on a pre owned. (Stock #5358C) www.Vacuum SalesInc.com (888) VAC-UNIT (822-8648). (PBM)



1994 International 8100: M11 Cummins engine with 9 speed transmission, 280 hp, 298,712.5 miles, 1991 Keith Huber, Inc. dominator vacuum unit, 2,300-gallon debris tank, fully hydraulic tank lift with opening rear door, 20" hatch with ladder upgraded vacuum pump, Demag Wittig RFW150VL 500 cfm, free air capacity. Asking ......\$39,500

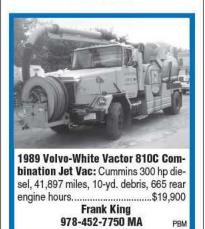
For more information call Mark 504-415-6067 or Kelli 985-535-3000, ext. 215 mroussel@pelichem.net

2000 Vactor 2100: 1,000-gallon water, 8-yard debris body, single fan, single rear axle, 60 gpm, Cat front with 5,700 hours, JD rear with 4,100 hours, 23,200 miles, municipal unit, \$80,000. 906-337-0591, MI.

1990 International 7100, Int'l DT 466, 220 hp. 87,381.1 miles, 1991 Keith Huber, Inc. dominator vacuum unit, 2,300-gallon debris tank, fully opening rear door with top, 20" hatch with ladder, vacuum pump upgraded to a AC 4 Moro vac pump, 318 cfm, free air capacity, still works everyday, solid work truck. Asking price \$39.500. For more information call Mark 504-415-6067 or Kelli 985-535-3000, ext. 215. mroussel@pelichem.net.

1993 Vacuum Truck: Volvo WHGM, triple axle, Demag pump, 2.875-gallon tank, Quick sale, \$27,000 or better offer. Phone: 818-612-5148, CA.

#### **JET VACS**



1999 Sterling Cab & Chassis with a Vactor 2100 combination Vacuum Loader. (Stock # 2775C) www.VacuumSalesInc.com (888) VAC-UNIT (822-8648). (PBM)

Jack Doheny Supplies Inc. offers a full range of late model combo units and DOT industrial vacuum loaders. Call us @1-800-3DOHENY.

2008 Sterling LT7501 with a VacAll AJV1015, 10-yard debris body, 1500 gallon water, combination vacuum/jetting unit. (Stock #13366) www.VacuumSalesInc.com, (888) VAC-UNIT (822-8648).

#### LEASE/FINANCING

North Star Commercial Credit: Commercial Loans for Trucks or Equipment. Flexible purchase programs to fit your budget. 21 years in the industry. Contact Tom Myers -877-804-2274. (CPBM)

#### LOCATORS

Used Line Locator: Works in cast iron pipe. Call 614-491-2121, OH.

#### **MISCELLANEOUS**

Three Amthor aluminum tanks, 1,500 waste, 500 fresh, tanks deteriorating. Priced to sell. For more info call 931-320-2255.

#### PORTABLE RESTROOMS

50 Agua standard PolyPortables, low use. great condition. \$325. Each quantity discount available, central Michigan, shipping available. Call 989-588-4140 for pics.

FOR SALE: Special event, construction, handicaps, high-rise units, hand wash stations. \$150-\$325. Call Manny at 305-970-9837 or email proequip1@yahoo.com. (P03)

#### PORTABLE RESTROOMS

We buy used portable toilet equipment, toilets, handicaps, hand wash stations, trailers, tanks & trucks. Contact Manny at 305-970-9837 or email proequip1@yahoo.com. (P03)

Up to 400 used teal Satellite units in excellent condition in Central Florida, \$200 each. Minimum purchase 50 units, 352-860-0195.

2008 Maxim 3000, green, construction grade units, 30 total available, 4 years old, \$300 each OBO, Gilroy, CA., John@norcalportable services.com, 408-710-1698.

#### PORTABLE RESTROOM TANKS

Single or multiple compartment tanks. Choose mild, stainless, or galvanized steel. Capacities from 100 to 6000 gallons, any diameter. Parts and accessories to build your own and save money. 800-545-0174. www. tanksandpumps.com. (PBM)

#### PORTABLE RESTROOM **TRAILERS**

3 Decons, McKee portable toilet transport trailers, 3-12 pack; 2-6 pack. American Engineering 828 Tonto and 814 Royale. 2001 ASCI 16' Presidential. 315-437-1291, NY.

2008 Olympian 24' restroom trailer, (3) womens stalls and (1) sink. (1) mens stall, (3) urinals and (1) sink. Heat. A/C and hot water. \$22,000. 866-883-9538, NY.

New and used RESTROOM TRAILERS available immediately. 8 to 34 foot luxury trailers. Comforts of Home Services Inc. 877-382-2935. (PBM)



2006 Pinnacle 8 by 18: Very light use at a wedding site. Ladies's: 3 stalls. Men's 2 urinals, 1 stall. AC, audio, wood floors, marble vanities, custom removable top valance for stationary use, deluxe. .....\$8,800

iscottwheeler@me.com, 252-597-1200 NC

#### PORTABLE RESTROOM **TRAILERS**

Maryland Restroom Trailers is up grading inventory for the new year and has several restroom trailers for sale. All are Olympia brand. (5) 26' trailers, (6) 19' trailers and (3) 14' trailers. These are housed indoors year round. Please contact rick@mdpt.com for pricing or 410-365-0098, MD.

#### PORTABLE RESTROOM TRUCKS



1995 International 4300: Good truck, approx. 50,000 miles on motor, new rebuilt transmission (2-14-12). .....\$7,500

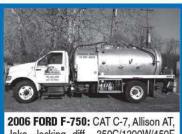
Call Andy or Amy 606-473-5314

420-5310.



2004 International 4200: Aluminum FlatVAC portable toilet service truck 16' stake bed truck with removable side racks. V-8 diesel, 174K miles with Masport HXL4V, service off both sides, lift gate, DC-10 water pump, toolboxes each side. .\$49,900 OBO

CALL MERLE 217-344-5004 IL POS



Jake, locking diff., 350C/1200W/450F Progress aluminum tank, 119K miles, 25,995 GVW, dual side service, \$44,500 bwyoungir@hotmail.com, 610-587-6159 PA

#### PORTABLE **RESTROOM TRUCKS**



2003 GMC 7500: 3126 Cat, 225 hp., 26,000 GVWR. Abernethy 1,500-gallon tank with heated fresh water tank. Alum wheels, dual side service, two unit carrier with four storage boxes. .....\$36,500

Contact Jason at 336-250-9848 or jason@64portables.com, NC

2005 Ford 550, diesel 4x4, auto, air, 97,000 miles, one owner, never driven in the winter,

950-gallon Transway tank, Call will give more info. Call for pricing, 802-895-4445, VT. (PBM) 2007 Ford F-550 4x4 XLT: auto satellite, 950 service body, Burk fresh water system, well

maintained, 180K miles, clean, sharp. 641-



2000 International 4300, DT466, 118,014 miles, Conde pump, hydraulic, pressure washer, 500 waste/290 water. .....\$21,500 OBO

**Contact Randy or Cody** @ 419-877-5351 OH

2005 Ford F-550 diesel: 300 fresh/600 waste, Marsh Industrial tank, two unit lift gate, 126,000 miles, 4WD, \$25,000, 231-633-2141, MI.



1997 International 4700/DT466: 5-speed, 700 waste/300 fresh, hauls 6 toilets, 272,000 miles, newer motor, excellent shape, lift gate, under CDL, .\$14,500

Call 517-546-2268 MI

#### **PORTABLE** RESTROOM TRUCKS

2004 Freightliner M2, MBE 900, 210 hp, manual 6-speed, non-CDL, air brakes, 151,578 miles, PresVac system, 400 fresh/1,000 waste, dual side service. 2-unit carrier. \$22,000. 2003 International 4300, non-CDL, DT466 6-speed manual, 127,021 miles, 300 fresh/ 1,250 waste, dual side service, 2-unit carrier. \$24,000. 1999 International 4700, DT466, non-CDL, 223,055 miles, Lely body, 300 fresh/1,250 waste, MEC 6500 pump, dual side service, 2-unit carrier. \$16,000. OHIO, 614-497-1776, www.billjr@potty4u.com. (PBM)

For Sale: (2) 1993 International 4700, 1,000 waste/250 fresh, still in service. \$9,000 each. Call 800-843-9286. IN.

2007 International 4100, under CDL, 109k miles, 350 fresh/750 waste Crescent tank, dual side service, carries 8 toilets, pressure washer, lift gate, new Masport pump, excellent condition. www.pumpertrucksales.com. Call Mike @ 303-478-4796 or JR. @ 720-253-8014, CO.

2002 International model 4300 flat bed, 140,650 miles, gvw 25,500 lbs, DT-466, International engine, 215 hp. Allison automatic transmission, muncie power takeoff, 500-gallon fresh water tank, GREAT for EVENTS, 10' flat bed, 2,000 lbs lift tuck away lift gate, rotary snow chain system and exhaust brake. \$18,900. 845-499-0570, NY.

2002 Int. 4300, \$27,500; 2001 Int. 4700, \$25,500: 2000 Int. 4700. \$20,500: 1995 Rolloff, \$17,500, 300 restrooms, \$100 - \$300 each. Call 256-757-9900 or visit www.pbsos. com for more info and pictures.

#### **PORTABLE SHOWER TRAILERS**

Available for immediate sell: A 2006 Pace 24' trailer, custom out for us. Interior and exterior pictures are available. Used infrequently by non-profit organization. Asking \$35,000 but will consider price to sell. Please contact dave@ mlf.org, 512-328-7299, extension 108. (P03)

2-Station shower restroom combo, Comfort trailer, only 6 months old, in great condition with winter package and instant hot water heater, 130-gallon fresh water tank, amazing trailer for events or construction, \$15,500. Please call 845-499-0570, THANKS,

#### **PUMPS-VACUUM**

New Masport and Jurop vacuum pumps. W-K Machine & Supply Co. Call 1-800-633-8947. Distributor, Missouri. (PBM)

#### **PUMPS-VACUUM**

Need a vacuum pump for your portable pumper? Try our new 30 cfm, 12 volt system. Less noise, no fuel. Automatic oiling, cheaper than a gas engine. 800-545-0174. www.tank sandpumps.com.

Vacuum Pumps - New, used, or rebuilt. 30 to 900 cfm. All major brands: air, water, or fan cooled. Rebuild specialists - rebuilt PB, M3, M10, and others available. 800-545-0174. www.tanksandpumps.com.

Buy & Sell all makes and models, new & used vacuum pumps & high pressure water pumps, and good used replacement parts. Call for an inventory sheet and save. www.Vacuum SalesInc.com, (888) VAC-UNIT (822-8648).

#### PRESSURE WASHERS



NLB 10,000 Lb. Pressure Washer: Diesel, approximately 800 hours.....\$15,000 617-212-0162 MA

#### **RENTAL EQUIPMENT**

Liquid vacs, wet/dry industrial vacs, combination jetter/vacs, vacuum street sweeper & catch basin cleaner, truck & trailer mounted ietters. All available for daily, weekly, monthly, and yearly rentals. VSI Rentals, LLC, (888) VAC-UNIT (822-8648) www.vsirentalsllc.

#### SEPTIC TRUCKS



2007 Freightliner: Juggler J10A liquidsolid-grease separator, Mercedes-410 hp, Allison automatic, Jake brake, 86,000 miles, service grease traps & septic tanks with no chemicals. Reduce your operational costs by up to 80%! ...\$149.000

Please Call 717-933-9792

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#### SEPTIC TRUCKS

1988 GMC Autocar, 4,000 gallon, rebuilt motor, new tires, comes with hoses, ready to work for you. \$37,000. Call 321-441-6436, FL.

Retiring 1990 International 8200, 6x4, 3,300 gallon with Masport pump, Cummins 350, 9-speed, 2076K original miles, Jake, seasonal use only. \$35,000. Call 530-623-5958. CA.



1993 International 4900 truck: 33,000 gvw with a 2,300-gallon tank, MEC 8000 pump, 4" discharge and a 3" inlet. ...\$21,000 OBO.

Ricky @ 919-498-5665 NC PO3



2005 Peterbilt 379: Caterpillar C-15 500 hp, 581,742 miles, new heavy duty 5,000-gallon U.S tank with 5 year warranty, doubled framed chassis, Jurop LC-420 liquid cooled pump (425 cfm), 1 year warranty, aluminum hose trays, dual rear aluminum toolbox, full float front tires, 20,000 lb. tag axle, aluminum wheels, rear work lights, new custom paint, chrome front bumper, heavy duty rear bumper with tow hooks & drip tray, all new valves, large 12-gallon cyclone secondary. 1 year/100,000 mile engine warranty nationwide. See dealer for more details.

George 954-558-0816 or Mike 786-554-0892 www.nationaltruckcenter.com PO3



1996 Chevy Kodiak: 3116 Cat engine, 6-speed trans., lift axle, new Abernethy 3,500-gallon tank with hydraulic lift, tank 910-287-5354 NC

#### SEPTIC TRUCKS



2008 MACK PINNACLE VACUUM TANK: 340 hp, MP7, Eaton 10-speed, GVWR 68,000 lbs, only 84,000 miles, tag axle, aluminum wheels, aluminum fuel tanks, air horn, chrome front bumper, new rear tires, air brakes, air seat, driver information center, 3,500-gallon tank, Moro vacuum pump. More pictures on our website at www.carcotruck.com.....\$118,000 Contact Tom at 320-393-3687 MN

1998 Mack RD688S cab and chassis, pre owned 4,000 U.S. gallon, carbon steel vacuum tank; with a NVE 367 vacuum-pressure pump installed. (Stock 4912C) www.Vacuum SalesInc.com, (888) VAC-UNIT (822-8648). (PBM)

2000 International 4900 series with a 2,150-gallon Presvac tank, Masport HX-L75WV water cooled pump. (Stock #4619C) www.VacuumSalesInc.com, (888) VAC-UNIT (822-8648). (PBM)

2012 Peterbilt 388 cab and chassis, new 4,600 U.S. gallon, carbon steel vacuum tank; and a RCF 500 vacuum-pressure pump. (Stock #13511A-F) www.VacuumSalesInc.com, (888) VAC-UNIT (822-8648).



1993 International 4900 DT466: 6+ transmission, Fruitland pump, right angle gear drive, air brakes, 2100 gal tank with Armstrong digital gauge. Non-CDL. 226K miles. Was \$17,500, now reduced to .....\$16,000

409-313-0327 dkptoo@aol.com TX P03

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

#### SEPTIC TRUCKS

2000 Freightliner pump truck, good for grease/ septic with 3,350-gallon tank. Call 480-354-9590, email IDEALSEPTIC@GMAIL.COM. \$25,000, OBO.

2004 Freightliner, 210 cab, 6 plus 1 trans., double frame, new 2,000 gallon tank, under CDL, new Jurop pump. www.pumpertruck sales.com. Call Mike @ 303-478-4796 or JR. @ 720-253-8014, CO.

2005 International, 7400 DT 466, 300 hp, double frame, 127,000 miles, new 3360 vac tank with Masport 400 8LL trans. www. pumpertrucksales.com. Call Mike @ 303-478-4796 or JR. @ 720-253-8014, CO.(P03)



1983 Ford F7000: Runs great, vacuum pump just rebuilt.....\$9,000 OBO 901-490-1931 MS

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.

1998 Ford LT9513, cab and chassis, pre-owned, Cusco, 5,000 U.S. gallon, carbon steel, vacuum-pressure tank with a Wittig RFL-100 vacuum pressure pump package. (Stock #7300V) www.Vacuum SalesInc.com, (888) VAC-UNIT (822-8648). (PBM)



1993 Volvo: Cummins, 9-spd., 1996 3000 gallon tank, Mec 8000, 3" inlet, 6" heated with air control. .....\$24,900 1-800-826-2308 WI PBI

1990 Ford L9000, single axle truck with 2,300-gallon Badger tank, Ford engine, 6 speed transmission, AC 4 Moro vacuum pump, 33,000 GVW, good working condition, asking price \$18,500. 717-860-9530. Ramsey's Septic Service, PA.

#### SEPTIC TRUCKS



1988 Freightliner: 2,600-gallon USG Thompson tank, 1-year-old Jurop pump, 3406 CAT Engine, 9 speed, 560,000 miles, MUST SELL.....\$22,000 **928-303-5966 AZ** 



2008 Peterbilt 367: 23,682 miles, every option, Allison automatic, Progress Alum. 4,000 gallons, Masport, rear opening door. Super deal .....\$149,995

htcwy@aol.com Call Jack @ 406-696-2919 MT

1999 International 4900 DT466, non-CDL, 230 hp, 6 speed with lo-hole, new 1,850-gal-Ion Colt tank, new PN84 Jurop pump. www. pumpertrucksales.com. Call Mike @ 303-478-4796 or JR. @ 720-253-8014, CO. (P03)



1989 Ford IN9000: 4,000-gallon pumper, Masport pump, newer front tires, truck runs and pumps great!! Truck can be worked daily.....\$10,000, OBO.

Call Andy or Amy

606-473-5314

P03

1999 Freightliner FL70, 239,000 miles, 33,000 GVW, 7 speed, 3126 Cat motor, 230 horse, air ride, power steering, power brakes, ac, air seat, 2,350-gallon tank, nice truck. \$28,500, 515-265-3986, IA.

#### SEPTIC TRUCKS



2005 Sterling A9500: Caterpillar C-11, 425 hp, 222,495 miles, new heavy duty 3,600-gallon, U.S tank with 5 year warranty, Jurop R260 (363 cfm) pump, rear work lights, all new valves, aluminum hose trays, aluminum toolbox, double framed chassis, new custom paint, large 12-gallon cyclone secondary. 1 year/100,000 mile engine warranty nationwide. See dealer for more details......\$82,000

George 954-558-0816 or Mike 786-554-0892 www.nationaltruckcenter.com PO3



2007 Peterbilt 385: 482,286 new heavy duty 5,000-gallon U.S tank with 5 year warranty, doubled framed chassis, Jurop LC-420 liquid cooled pump (425 cfm), 1 year warranty, heavy duty rear bumper, aluminum hose travs, aluminum toolbox, 13,000 lb. tag axle, aluminum wheels, rear work lights, new custom paint, all new valves, large 12-gallon cyclone secondary plenty in stock. 1 year/100,000 mile engine warranty nationwide. See dealer for more details.

George 954-558-0816 or Mike 786-554-0892 www.nationaltruckcenter.com PO3



2006 International 7500: 340 hp. high torque, 10 speed, 3 stage Jake-brake, 18k front, 46k rears, air suspension, locking rear, heated ball valves with front intake, seelevel gauge, only 145,000 miles, aluminum wheels, trailer hitch with electric. Owner operated, SAVE THOUSANDS, No FET. PRE-EMISSIONS, hoses included!.....\$75,600

518-225-2560

#### **SEPTIC TRUCKS**



2002 International 4300: DT-466. 245 hp, 6 speed, 159,509 miles, heavy duty 2,200-gallon U.S. tank, new Jurop R260 (363 cfm) pump with 1 year warranty, new valves & camlocks, aluminum hose trays, sight glasses, new custom paint. See dealer for more details. .....\$49,000

George 954-558-0816 or Mike 786-554-0892 www.nationaltruckcenter.com PGS



2006 Kenworth: CAT C-13, 475 hp, 8ll, 361,477 miles, new heavy duty 110 barrel "straddle tank," built by U.S. tank with 5 year warranty, Jurop LC-420 liquid-cooled pump (425 cfm) with 1 year warranty, rear work lights, new butterfly valves, heated collars, aluminum wheels, chrome package, dual aluminum toolbox in rear, aluminum hose trays, factory double framed chassis, new custom paint, large 12-gallon cyclone secondary, full float tires, full length sight tube, 13,000 lb. steerable tag axle, 46,000 lb. full locking rears, chrome front bumper, heavy duty rear bumper with tow hooks & drip tray, 1 vear/100.000 mile engine warranty natiowide, see dealer for details.

George 954-558-0816 or Mike 786-554-0892 www.nationaltruckcenter.com PO3



1996 International: 9300 series, 3,400gallon tank, Masport pump, 350 hp, CAT 3406, 52,000 GVW, 383,000 miles, clean truck, MUST SELL. . \$32,000 MAKE OFFER!

928-303-5966 AZ

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2012 Texla Services: 800 gallon, self contained, septic vacuum tank, skids starting at \$9,700!! Can mount on truck frame if needed.

Call 936-641-3938! P03



hp, 33,000 GVW, 6+1 trans, new motor 80,000 miles, 2,350 gallon tank, Jurop R260 pump, cab repainted, new tires. Great starter truck.....\$30,000

770-898-3761 - Georgia

1996 Ford: LTS 9000 cab and chassis with pre-owned Cusco, 5,000 U.S. gallon, carbon steel, vacuum-pressure tank, Wittig RFL-100 vacuum pressure pump package. (Stock #7343) www.Vacuum SalesInc.com, (888) VAC-UNIT (822-8648). (PBM)

1993 White GMC vacuum truck, triple axle, 2875-gallon tank, 176,585 miles. \$19,500 OBO. Lenny 818-612-5148, CA. (PBM)

FOR SALE: 2009 Sterling LT8513, automatic transmission, septic truck, Presvac, aluminum 3,600-gallon tank, Masport HXL400WV pump, Hot Shift PTO, loaded with options, 49,800 miles, one owner, one driver. See photos at www.vansantwasteservices.com. \$95,000. 732-237-9988, NJ.

2007 STERLING 9515 PUMP TRUCK: 4.100-gallon waste, 300-gallon fresh water. RF 150 Demag Witting vacuum pump. \$85,000 firm. 850-685-1031, FL.

#### SEPTIC TRUCKS



2001 Mack Vision CX-612: 3,600 E7-310-330 Engine, #1MAED1X72W001082......\$50.000 Call 386-325-2634

**For More Details** 

1987 Mack 600: 300 engine, 6-speed air shift transmission, 12F-38R, 3,000-gallon tank, 24" rubber, 1 year old Fruitland pump, newly refurbished. ......\$20,000 OBO Call Dick 413-498-5592 MA P04



2000 Ford F750: 225,000 miles, 2,500 gallon, 7 speed, Cat motor, new Moro AC4 pump July 2009, old pump goes too, rebuild for spare. Owner driven since new. Be pumping tomorrow. Great truck!! ......\$39,500 **615-790-8882 TN** Po

2006 Ford 550: Progress aluminum 1,000 (400/600)-gallon tank, service truck with tool boxes on both sides, Masport HLX4V, 191K miles with two toilet carrier/fold up gate, warranty on tank. ....\$34,900 OBO

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#### SEPTIC TRUCKS



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#### **SLIDE-IN UNITS**

Work-Mate Jr. slide-in unit, Model 12513, Masport pump, Honda 5.5 horsepower. \$6,500. 307-367-2767, Wyoming.

FOR SALE: 2 Imperial 2008 aluminum slidein units. Heated/garage kept, never used. 300 gallon capacity with 200 waste & 100-gallon fresh. Conde pump-GX160, Honda motor. \$5,750 each. 248-634-3383, MI.

FOR SALE: New steel, 170 waste/80 water. Conde model 3, 5.5 Honda electric start, water pump, 30' vacuum hose, garden hose etc. \$5,500.00 + tax. Will be ready for work in 14 days. Delivery for a fee. 315-375-7867, NY.

#### **TANKS**

Vacuum Tanks - New: Sizes from 1,900-4,000 gallons. Great deals! Check us out: 3,600 gallons for \$13,000 and 4,000 gallons for \$14,00 0. All complete! Will make you a great deal! Delivery available. www.JÉagle Tanks.com or Jerry at 800-721-2774.

(PGBM)

4,000-gallon aluminum tank, 81" diameter, 14' barrel tack welded together with dished end. 3 partial baffles tacked, includes other end with two manways, \$6,000. 508-746-4002, email for pics, plymouthseptic@verizon.net, MA. (P03)

For Sale: 3500 gallon, Core 10, steel tank. Approx. 8 years old. Located in Wl. Asking \$8,000 OBO. For more information or pictures, please call 1-888-345-8848. Serious inquiries only please. (P03)

#### **TANKS**



Short tank trailer: 4,400 gallon, built in 2008, only used for about 50 loads, still like new. Illinois. .....\$36,900 217-322-6310



3.000 gallon Lely steel tank: Baffled with two heated valves, site tube and site glasses. Aluminum tool box in good condition included. Asking ......\$5,500 **Call Dennis** @ **267-767-8683** 

with questions P03

3,300-gallon dumper vacuum tank. Comes with full rear opening door and 500 cfm rotary vacuum pump. 541-269-5050. \$12,500. (P03)

Vacuum tanks, 100 to 6000 gallons, All options available: hatches, primary, secondarv. valves. catwalks. ladders. etc. Evervthing needed to build your own septic truck. Choose mild, stainless, or galvanized steel. Ask about full open doors. 800-545-0174. www.tanksandpumps.com. (PBM)

#### 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.(PBM)

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RETIRING: 1984 Peterbilt w/7500 gallon aluminum semi trailer. Transport or store grease or septic. \$25,000. Jim 951-545-9604,

2006 Arco Aluim, Vac Tanker, 6,000 gal., 1999 Mack, Ch613 tractor, Masport vac pump, nice unit, job ready. \$85,000 OBO. Call Barry 256-832-7867, AL.

#### **TRUCKS** (DUMP, SEPTIC, MISC.)

1981 Mack SEPTIC TANK PUMP TRUCK: 3,500-gallon tank, Jurop pump, pump totally rebuilt, V-6 Detroit 9-speed. Very good condition, READY TO WORK. \$8,500 or best offer. Call Rick 816-738-4531, MO.

1987 Mack MR, tri-axle, 5,000 gallon, runs daily, frame cracked. \$15,000 OBO. Call 765-914-7583, IN.

Wanting to buy a used truck with a 2,500 or 2800-gallon aluminum tank, 300+ hp /engine. 724-445-3377, PA.

#### TV INSPECTION

2008 Ford E-150 HD with 2005 Cyclops equipment (VN-004), color, pan, tilt, zoom over 700 ft. cable. Nice van 73k, 5.4 gas, automatic, AC, with rear heat and AC. Just sent unit to Cyclops factory in Texas for updates and service. Ready to make money for you. Nice compact unit. See more at: http://www. truckpaper.com/listingsdetail/detail.aspx?OHI D=2650751&dlr=1&pcid=2000801049 (stock #08-01). \$39,500. 719-338-3767 (more cctv vans from \$24,950. (C06P05)

#### **VACUUM EQUIPMENT**



1980 International F2475: 70 bbl tank truck, steel tank, Jurop pump, heavy specced truck, in good shape, fleet maintained. Ready to go in Ohio. \$13,500 OBO Call Art at 330-802-0089

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2000 Gap Vax HG57 WET/DRY on Volvo WG64, 5,500 cfm, 27" Hibon blower, Cummins engine, chassis tank and bag house, in good condition, ready for work. KLM Companies, 617-909-9044.

2000 Supersucker 6225 WET/DRY, 5,800 cfm, 1025DJV, 27" roots blower, Cat power with Fuller trans., work ready. KLM Companies, 617-909-9044.

2011 Peterbilt 365 POWERVAC 3800, 3,000 U.S. gallon carbon steel vacuum tanker with Hibon PD blower 3800 SCFM with vacuum to 27" mercury. Dump type; DOT 407/412 regulations. www.VacuumSalesInc.com. (888) VAC-UNIT (822-8648).

1999 Sterling cab & chassis with a Cusco Turbovac 3800 industrial loader with a jetting system. (Stock #3163C) www.Vacu umSalesInc.com. (888) VAC-UNIT (822-

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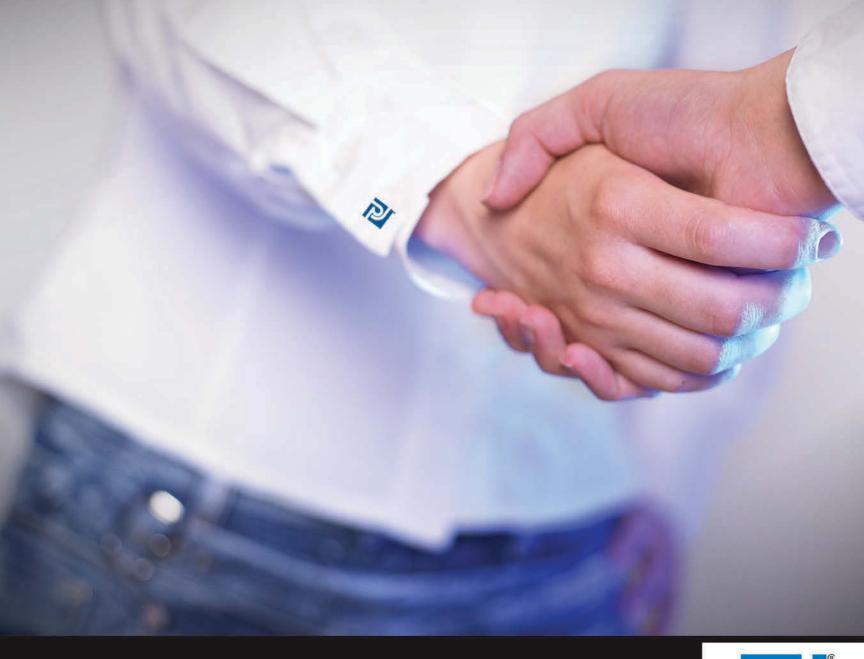


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