

May 2019

# ON SITE installer™

PROMOTING WASTEWATER TREATMENT QUALITY AND PROFESSIONAL EXCELLENCE

www.onsiteinstaller.com

**SNAPSHOT:**  
Working for better  
wastewater  
treatment in  
Nova Scotia p. 46

## EDITOR'S NOTEBOOK:

An Arizona installer  
and Realtor educate  
homeowners p. 6

## EXTRA SPECIAL CARE

Delaware Valley Septic, Sewer & Storm takes measures  
to install quality systems with minimal site disturbance  
for high-value homes in southeast Pennsylvania p. 12

## SYSTEM PROFILE

Replace all the systems  
in an Iowa town p. 20



2019 Onsite Installer  
**Buyer's Guide**  
p. 26



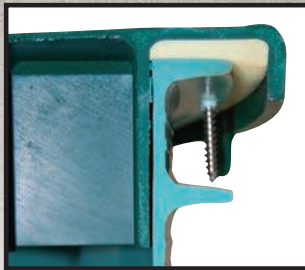
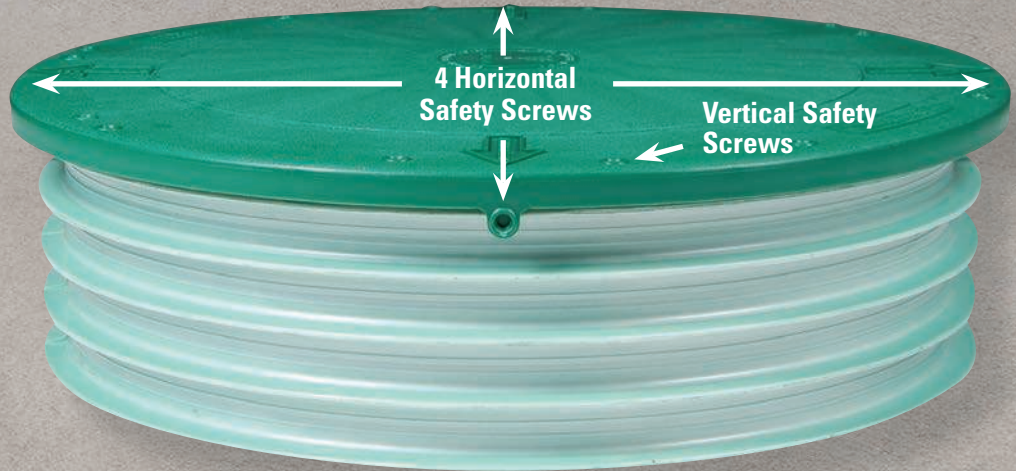
# 24" HEAVY DUTY MULTI-PURPOSE FLAT RISER LID

**FREE FREIGHT**  
 on Full Cartons!

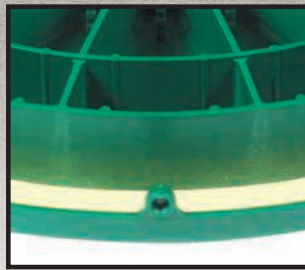
**Fits most commercially  
 available:**

- Risers
- IPEX PVC Ribbed Pipe
- Corrugated Pipe

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



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



Foamed-in Permanent Polyurethane Gasket.



Holds up to 70 lbs of Concrete for Added Safety.



Water-TITE™ Joint Vertical and Horizontal Safety Screws

## 4" Effluent Filter and 4" T-Baffle™

86 ft. of 1/16" filtration area.

Increases time between filter cleaning.



EF-4 Combo 18

### 4" Effluent Filter EF-4

One-piece effluent filter fits in 4" Sanitary Tee.

- Injection molded PolyPro
- Simple to install - Easy to clean

### 4" Sanitary Inlet/Outlet T-Baffle™

Injection molded T-Baffle™.

- Injection molded T-Baffle
- Fits 4" Sch. 40 and SDR-35 pipe
- Simple to install
- May also be used as Inlet & Outlet Tee

## 6" Effluent Filter and 6" T-Baffle™

244 ft. of 1/16" filtration area.

Increases time between filter cleaning.



EF-6 Combo Includes Filter, Housing and Bushing

### 6" Effluent Filter EF-6

One-piece effluent filter fits in 6" T-Baffle™.

- Injection molded PolyPro
- Simple to install
- Easy to clean

### 6" Sanitary T-Baffle™

Injection molded T-Baffle™.

- Injection molded
- Fits 4" Sch. 40 and SDR-35 pipe
- Simple to install
- May also be used as Outlet Tee with Solids Deflector





# Working Together Side By Side



## Technical Support • Education • Training

The Infiltrator team offers a strong regional presence with extensive resources and support. Count on us as your partners in the field through your entire job. Success is our goal!

*Ask about demo opportunities in your area.*



### Infiltrator Water Technologies Product Line



(800) 221-4436 • [www.infiltratorwater.com](http://www.infiltratorwater.com) • [info@infiltratorwater.com](mailto:info@infiltratorwater.com)





### INSTALLER PROFILE:

**Extra Special Care** By Ted J. Rulseh

### ON THE COVER:

Pennsylvania's Delaware Valley Septic, Sewer & Storm specializes in building and maintaining septic system for estate homes. Owners David DiGregorio, left, and T.J. Dell'Arciprete are shown at the company headquarters with a 2017 Mercedes-Benz Sprinter 3500 service van with Kargo Master upfit and a 2007 Mack vacuum truck with a Presvac Systems tank and National Vacuum Equipment blower. (Photo by Kevin Blackburn)

### 6 Editor's Notebook:

#### An Arizona Onsite Professional and Realtor Find Common Ground

When Doug Disbrow and Susan Keown teamed up to promote septic system upgrades, homeowners and the environment were the big winners.

By Jim Kneiszel

### 10 @onsiteinstaller.com

Be sure to check out our exclusive online content.

### 18 Safety First:

#### Make Sure Your Team Is Prepared When Disaster Strikes

An emergency plan will serve your installing crew well when they navigate trenches, work with heavy machinery or plug in the power tools.

By Jared Raney

### 20 System Profile:

#### An Iowa Farming Community Shapes Its Decentralized Wastewater Future

A complex mix of individual and cluster systems helps Rowan, Iowa, clean up the environment and serve the treatment needs of homes and businesses for generations to come.

By David Steinkraus

### 26 2019 Onsite Installer Buyer's Guide

### 40 Rules and Regs:

#### Florida's Governor and Legislature Push for Onsite System Oversight, Periodic Inspections

By David Steinkraus

### 44 Basic Training:

#### You Say Soil Mottles; I Say Redoximorphic Features

You don't have to be a soil scientist to evaluate soil coloration found in the field. We'll teach you the basics.

By Jim Anderson and Dave Gustafson

### 46 States Snapshot:

#### Nova Scotia Wastewater Pros Working Closely With the Department of Environment

More residents in this lightly populated province utilize onsite systems than municipal wastewater treatment, so customer education is an important job for local installers and pumpers.

### 48 Associations List

### 51 Industry News

## Coming in June 2019

**ISSUE FOCUS:** Septic Tanks & Components

Contractor Profile: Indiana designer a stickler for details

Basic Training: More on redoximorphic features

Published monthly by

COLE publishing

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

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

Website: [www.onsiteinstaller.com](http://www.onsiteinstaller.com)

Email: [info@onsiteinstaller.com](mailto:info@onsiteinstaller.com) • Fax: 715-546-3786

### SUBSCRIPTIONS

A one year (12 issue) subscription to *Onsite Installer*™ in the United States, Canada or Mexico are free to qualified subscribers. A qualified subscriber is any individual or company in the United States, Canada or Mexico that partakes in the installation, design, maintenance, manufacture, treatment, consulting or sale of onsite wastewater treatment systems or supplies. Non-qualified subscriptions are available at a cost of \$60 per year in the United States and \$120 per year outside of the United States. To subscribe please visit [onsiteinstaller.com](http://onsiteinstaller.com) or 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, Discover and American Express are also accepted. Supply credit card information with your subscription order.

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

### CLASSIFIED ADVERTISING

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

### DISPLAY ADVERTISING

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



Winnie May

### EDITORIAL CORRESPONDENCE

Send to Editor, *Onsite Installer*, P.O. Box 220, Three Lakes, WI 54562 or email [editor@onsiteinstaller.com](mailto:editor@onsiteinstaller.com).

### REPRINTS AND BACK ISSUES

Visit [www.onsiteinstaller.com](http://www.onsiteinstaller.com) for options and pricing. To order reprints, call Jeff Lane at 800-257-7222 (715-546-3346) or email [jeff.lane@colepublishing.com](mailto:jeff.lane@colepublishing.com). To order back issues, call Nicole at 800-257-7222 (715-546-3346) or email [nicole.labeau@colepublishing.com](mailto:nicole.labeau@colepublishing.com).

### CIRCULATION

Circulation averages 20,823 copies per month. This figure includes both U.S. and International distribution.

© Copyright 2019 COLE Publishing Inc.

No part may be reproduced without permission of the publisher.



[www.facebook.com/OnsiteInstaller](http://www.facebook.com/OnsiteInstaller)



[www.twitter.com/OnsiteInstaller](http://www.twitter.com/OnsiteInstaller)



[www.youtube.com/OnsiteInstaller](http://www.youtube.com/OnsiteInstaller)



[www.linkedin.com/company/onsite-installer-magazine](http://www.linkedin.com/company/onsite-installer-magazine)





# Presby Environmental

The Next Generation of Wastewater Treatment Technology

## ADVANCED ENVIROSEPTIC™

### PASSIVE ONSITE WASTEWATER TREATMENT SYSTEM



**No ELECTRICITY • Low MAINTENANCE**



**COMBINED TREATMENT & DISPERSAL IN ONE SMALL FOOTPRINT**



**Third Party Tested and Certified**  
**Affordable & Reliable**  
**Scalable**











[PresbyEnvironmental.com](http://PresbyEnvironmental.com)    800-473-5298

## ADVERTISER INDEX

May 2019

	Alita Industries, Inc.....	45
	Arcan Enterprises.....	51
	Ashland Pump.....	7
	BioMicrobics, Inc.....	10
	BrenLin Company, Inc.....	43
	Cam Spray.....	10
	Crest Precast, Inc.....	43
	Den Hartog Industries, Inc.....	33
	Eljen Corporation.....	29
	ExcaVision, Inc.....	51
	Fuji Clean USA.....	37
	Infiltrator Water Technologies, LLC.....	3
	Jet Inc.....	41
	Liberty Pumps.....	23

	Meaty-Delivery.....	51
	National Precast Concrete Assoc.....	11
	Norweco, Inc.....	25
	Polylok, Inc.....	52
	Presby Environmental Inc. (PEI).....	5
	Roth North America.....	45
	SALCOR.....	9
	Septic Products, Inc.....	37
	ServiceCore.....	41
	Sim/Tech Filter Inc.....	31

	Simple Solutions Distributing.....	51
	SJE-Rhombus®.....	15
	T&T Tools Inc.....	45
	The Shaddix Company, Inc.....	51
	TUF-TITE, Inc.....	2
	Water Cannon, Inc. - MWBE.....	19
	Wholesale Septic Supply.....	8
	Wieser Concrete.....	49

## Enjoy this issue!

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





# An Arizona Onsite Professional and Realtor Find Common Ground

When Doug Disbrow and Susan Keown teamed up to promote septic system upgrades, homeowners and the environment were the big winners

**H**istorically it seems like septic system installers and maintainers have been at odds with the real estate sales community. Whenever a state onsite trade association supports legislation to monitor and maintain septic systems, invariably a Realtors' association steps in and tries to squash the effort to deal with environmental issues.

The real estate community circles the wagons and cries "big government" or "property owners' rights" to push back on regulations they perceive will slow the sale process. They argue that addressing failed or failing onsite systems will cost the home seller and homebuyer too much money and are an unnecessary intrusion when their customers are already dealing with big down payments and mortgages.

I know why they fight inspections and regulations. Follow the money straight to their commission checks. But isn't it the job of real estate agents to look out for the best interests of their clients? Don't they realize it's better to uncover a septic system issue at the time of sale rather than a few months later after the new owners have moved in? Negotiations between buyers and sellers turn into battles after the deal is done and one party or the other feels wronged. This is when the war can move to the courtroom.

I've seen the tension between onsite and real estate professionals play out many times over the years as states and counties consider time-of-sale inspections or required maintenance and pumping intervals.

So I was surprised and pleased to learn about an onsite system designer/inspector and a Realtor teaming up in Gila County, Arizona, (northwest of Phoenix in the Tonto National Forest) to educate homeowners about the importance of repairing onsite systems for the sake of improved water quality and the environment in general. The pair has worked together for a decade to fix many onsite systems along a creek system, resulting in the U.S. Environmental Protection Agency delisting the waterways for nitrogen pollution.

## GOLDEN SEPTIC TANK AWARD

Congratulations go out to Doug Disbrow, owner of AZ Wastewater Services, and Susan Keown, of ERA Young Realty & Investment in Payson. Their efforts to help homeowners and improve the Christopher Creek and Tonto Creek watershed recently won them the Golden Septic Tank Award from the Arizona Onsite Wastewater Recycling Association.

"They've really done a marvelous job," says Jake Garrett, manager of the wastewater division for Gila County, who has worked with them every step of the way. "They are a team and decided, 'We have a problem and we



▲ Kathy Mills, P.E., on the left, president of the Arizona Onsite Wastewater Recycling Association, presents the Golden Septic Tank Award to Doug Disbrow and Susan Keown. (Photo courtesy of AzOWRA)

need to clean up our waters. During transfer inspections, we need to push everyone as far as we can to fix their systems.' They used their personal persuasion powers and pushed to make this happen."

Garrett says Disbrow and Keown were inspired to take action after attending a semester-long Master Watershed Steward class conducted by the University of Arizona Cooperative Extension service. They wanted to improve implementation of time-of-sale inspection regulations after tests showed excessive nitrogen levels in the creeks. Over the years, they have convinced an estimated 30-40 homeowners to correct problems and replace systems, which brought nitrogen levels low enough to remove one impaired waterway designation.

Garrett says recent tests showed a total maximum daily load of nitrogen at less than 0.5 ppm in the creeks. By comparison, drinking water standards are 10 ppm, he says.



"This is one of the most exciting things I've seen happen in a long time, where something they did produced a result that you can see," Garrett says. He says the changes were made "with no funding — purely on the initiative of people and the willingness of private parties to do what's right. They knew they had a problem and this makes a big contribution toward cleaning up an environmental problem we all have."

### EDUCATION IS KEY

Consumer education opportunities have played a major role in acceptance of repairing and replacing polluting onsite systems, Disbrow says. Another factor is how much system inspectors have stepped up their game in the years since more thorough time-of-sale inspection rules went into effect in 2006, he explains.

Disbrow and Keown filled their schedules with as many speaking engagements as possible, from talking to realty groups and homeowner's associations to meeting regularly with students in grades four through eight during STEMfest events (science, technology, engineering and math) at area schools. The latter teaching moments have given positive exposure to the onsite industry and addressed clean-water issues important to everyone in the community, he says.

"This has helped develop an awareness about wastewater and the recycling process, and it just snowballs and snowballs and snowballs. In four hours' time, I'm talking to 150 students on an almost one-to-one basis and their parents," Disbrow says.

"I have found the average homeowner is afraid of the county when it comes to their wastewater system. They have the idea that if I let the county know they have a problem, they're going to make them put in a \$40,000 system when 95 percent of the time we can fix what they've got for \$2,000 to \$6,000," he continues. "They're never educated on basic maintenance, and once they get over the fear and false information, then we can open up a dialogue."

Work with inspectors in the county has also helped. Over the past decade, inspectors have become more thorough and are uncovering issues earlier in the transfer process, building confidence from buyers and sellers.

"The majority of inspectors in this county have stepped up their game," he says. Before the days of more enlightened real estate agents, careful inspections weren't encouraged.

**"The average homeowner is afraid of the county when it comes to their wastewater system.** They have the idea that if I let the county know they have a problem, they're going to make them put in a \$40,000 system when 95 percent of the time we can fix what they've got for \$2,000 to \$6,000."

**Doug Disbrow**

# DEPENDABLE EFFLUENT PUMPS

**EP SERIES**  
**3/10 HP up to 1 1/2 HP**

EP50, EP75, EP100 & EP150



**Ashland**

**P U M P**

*Honest, Professional, Dependable*

1899 Cottage St. □ Ashland, OH 44805 □ 855 281-6830 □ [ashlandpump.com](http://ashlandpump.com)



## PREMIUM PRODUCTS

at wholesale prices

WHOLESALE SEPTIC SUPPLY

## EDITOR'S NOTEBOOK



**FREE  
SHIPPING  
ON  
ALL PRODUCTS**

### MEDO 80

\$240 1-5 \$230 6-10  
\$220 11-20



### HIBLOW 80

\$235 1-10  
\$230 11-20  
\$210 21-52

2-YEAR WARRANTY



### FUJI MAC 80

\$220 1-5 \$200 11-20  
\$210 6-10 \$190 21-30

2-YEAR WARRANTY



### HIBLOW 60/80 REBUILD KITS

\$60 1-5 \$53 11-20  
\$58 6-10 \$49 25+

[www.wholesalesepticssupply.com](http://www.wholesalesepticssupply.com)  
(844) 660-0901

"They called it a tank certification inspection. Pump it, fill out the paperwork and away they go. They never looked at the piping, the leach lines. So many times a new owner would be in the house for a month and he had flushing issues," Disbrow says.

Today inspectors have better training and equipment to get the job done. Most have cameras and they scour systems looking for potential problems, he says. And the inspectors have developed good relationships with most Realtors, who now understand the importance of addressing onsite problems before home sales close, he adds.

"The smart Realtors like (Keown) have been around and understand the septic systems and are good advocates," he says.

## THE COMMON GOOD

Four generations of Keown's family have waded in the waters of Christopher Creek, and she has strong feelings about protecting water quality for generations to come. During 43 years in the real estate industry, she's learned the importance of stressing clean water. And functioning septic systems are a big part of preserving the well water residents drink and the rushing waters in the creeks.

Most of the private wastewater systems in the area were built in the 1950s through 1970s and they're failing with greater regularity, Keown explains. Some home still use steel septic tanks or cesspools, and repairs and replacements have made a big difference. When people understand the risk of ignoring these problems, they open the pocketbook, she explains.

"The real key is educating people about what's underground," she says. "I'm seeing a change in our area because of the education. Nobody wants to pollute their well, their only source of drinking water." She says it helps that in Arizona "water is more valuable than gold." All of that is part of the reason she can't remember a single homeowner who's been unwilling to repair a system once they are educated.

Keown says she's always impressed with Disbrow's ability to connect with homeowners, and she appreciates the efforts of the Arizona Onsite Wastewater Recycling Association to provide up-to-date training for the onsite industry. For her part, she likes to observe inspections for customers she represents and continues to learn about wastewater. On top of time-of-sale inspections, she also favors moves to require routine maintenance of systems.

"Doug has really raised the bar of all the inspectors here. They do a lot of training and all of the inspectors now have trackhoes and cameras and they're checking the tanks for watertightness. They're all doing really good inspections now, and it wasn't always that way," she says.

## SPREAD THE WORD

I hope this cooperative effort involving a Realtor, a system designer, inspectors, county government and a state trade association is repeated across the country in coming years. I am tired of reading headlines about real estate agents and onsite contractors working at cross purposes over an environmental issue that affects everyone. We need to rally around the cause of modernizing our decentralized wastewater infrastructure for the good of homeowners, the onsite industry and the environment. □

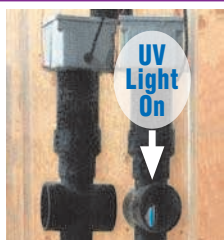


# WHAT'S IN YOUR WATER?



INACTIVATED BY  
**SALCOR**  
UV DISINFECTION

**UL & cUL LISTED**

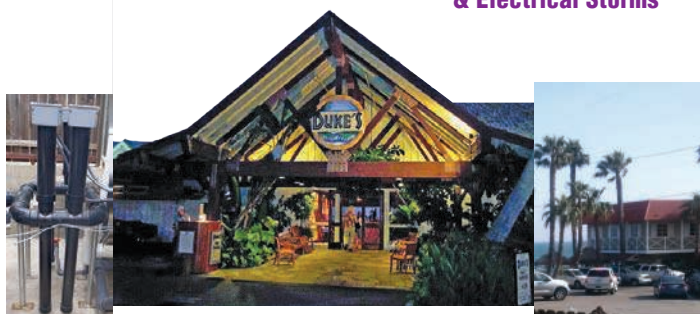


30-Day Underwater Proven  
"FLOOD-PROOF" (NEMA 6P)

**SURVIVES**



Most Hurricanes, Floods  
& Electrical Storms



**DUKE'S OCEANFRONT RESTAURANT, Malibu, CA**  
4 UV Unit Array Effluent Discharges into Ocean Beach Sand

**ELEMENTARY SCHOOL, MO**

**NURSING HOME, OH**



3 Salcor 3G UV  
Units (Parallel Array)  
in Extended Aeration



2 UV Unit Array Replaced  
Chlorine Chamber

**SALCOR UV DISINFECTED**  
**Treatment Plants**  
**to 100,000+ GPD**  
**DRAMATIC COST REDUCTION**  
**VS.**  
**OPEN CHANNEL UV!**

**3G UV UNIT**



**9,000 GPD  
GRAVITY  
FLOW**

**Easily  
Expanded**



**PARALLEL/SERIES ARRAYS**

- Residential/Commercial Wastewater Onsite Decentralized Uses to 100,000+ GPD
- Modular System - Less Costly and Reliable Tested Performance
- Expanded Arrays Reduce Spare Parts Inventory & Increase Flow
- Originator of "Revolutionary" Foul-Resistant Teflon® Lamp Barrier
- Most 3rd Party Successfully Tested (since 1997):  
**UL Listed**; **NSF/WA State** Fecal Coliform Tests, 6-Mo Each with 21 ATU's; **BNQ Canada**; **Universities** - U of Washington, Ohio State U, UC Davis, & U of Rhode Island
- Low Cost <40 Watts & Easy Install (In Ground or Pump Tank) & O&M
- **No** Chemicals Added and Enables Water Recovery/Reuse
- Reliable LED Visual Monitoring & Alarm Contacts
- 2-Year Warranty, Unit & "Long-Life" Lamp

**"3G" UV DISINFECTION, TRUSTED WORLD LEADER FOR 22 YEARS**

**SUCCESSFULLY TREATS:** Single & Cluster Homes, Small Sewage Plants, Schools, Hospitals/Nursing Homes, Churches, Restaurants, Mobile Home Parks, Campgrounds, Nurseries/Cut Flowers, Houseboats, Food Processing Wastewater, Etc.



**SALCOR**  
UV DISINFECTION SINCE 1978

website: [www.salcor.world](http://www.salcor.world)  
[jscraver@aol.com](mailto:jscraver@aol.com)  
760.731.0745 F: 760.731.2405





## Pressure Washers & Drain Jetting Equipment

### We Custom Build Machines To Your Specifications!

800-648-5011

[www.camspray.com](http://www.camspray.com)

[sales@camspray.com](mailto:sales@camspray.com)

Van and Truck Mount Models Available  
See All The Features And Specifications At CamSpray.com

### STB Series Trailer-Mounted Drain Jets



- DC-Powered Jet Hose Reel and 4-Nozzle Set
- Pressure Gauge & Hour Meter
- Electric Start with Low Oil Shutdown
- Pumps Handle Fluids Up To 160°
- Lockable Tool and Storage Boxes
- 150' Garden Hose on Manual Reel
- 300 Gallon Tank with Low Water Shut Off
- Gearbox Drive Triplex Plunger Pump with Ceramic Plungers and Stainless Valves
- Trailer with Industrial Painted Finish and 15" Aluminum Wheels

#### STB4012K \$18,999

- 12 G.P.M. @ 4000 PSI
- 999 CC Kohler • 400' x 1/2" Hose

#### STB3015K \$18,999

- 15 G.P.M. @ 3000 PSI
- 999 CC Kohler • 400' x 1/2" Hose

#### STB2712K \$13,499

- 11.5 G.P.M. @ 2700 PSI
- 689 CC Honda • 400' x 1/2" Hose

#### STB3708K \$13,299

- 8 G.P.M. @ 3700 PSI
- 689 CC Honda • 300' x 3/8" Hose

#### STB4007K \$13,299

- 7 G.P.M. @ 4000 PSI
- 689 CC Honda • 300' x 3/8" Hose



### TT4025HZ-35 \$52,995

- Produces 25 Gallons Per Minute at 4000 PSI
- 74 HP EPA Tier 4 Final Compliant Hatz Turbo Intercooled Diesel Engine
- Hydraulic Slide Out Swivel Reel with 500' x 5/8" Hose
- Air Purge Valve and 18 Gallon Anti-Freeze Tank and Freeze Protection
- Heavily Constructed Trailer with 2" x 4" Steel Tube Box Frame
- 26 Gal Fuel Tank Gives Hours of Run Time on a Single Fill
- Wireless Remote to Control Throttle Up and Down, Water Valve and More
- 350 Gallon Tank with 2" Hydrant Fill
- Features 150' Wash Down Hose and Front-mounted & Over-fender Tool Boxes

Beyond  
buckets  
and blades.

**digDIFFERENT**

**FIND OUT HOW.**

FREE subscription at [digdifferent.com](http://digdifferent.com)

@onsiteinstaller.com

Visit the site daily for new, exclusive content. Read our blogs, find resources and get the most out of *Onsite Installer* magazine.

### INSTALLATION TIPS

#### Accessible Clean-Outs

Easily accessible clean-outs are an important part of onsite system operation and maintenance. Installing a clean-out at the wall outside the home or business is a good idea if the system ever needs to be jetted or cleaned. The clean-out allows all this work to be done outdoors, so any mess stays outside. Read these tips for installing accessible clean-outs. [onsiteinstaller.com/featured](http://onsiteinstaller.com/featured)



### Overheard Online

"Change occurs over time and rarely happens all at once, so create steps to follow that take you down the path of growth you've established."

— 6 Steps for Growing Your Onsite Business  
[onsiteinstaller.com/featured](http://onsiteinstaller.com/featured)



### LEAVE NO TRACE

#### Excavating in Tight Spaces

When working on properties with extensive landscaping, pools and other high-value amenities, it's important to cause as little disturbance as possible. Dave DiGregorio of Delaware Valley Septic, featured in this month's issue, knows this all too well. In this exclusive online article, DiGregorio discusses his favorite excavators that get the job done in those delicate spaces. [onsiteinstaller.com/featured](http://onsiteinstaller.com/featured)

### DAILY GRIND

#### How to Fight Burnout

Being a septic services professional can be a thankless job. You're often called upon in emergencies when people aren't in the best of spirits, and you aren't always shown the level of respect you deserve. Has that daily grind killed some of the passion you had when you first got started in the industry? Try these tactics to get re-energized. [onsiteinstaller.com/featured](http://onsiteinstaller.com/featured)



**EMAILS AND ALERTS** Visit [OnsiteInstaller.com](http://OnsiteInstaller.com) and sign up for newsletters and alerts. You'll get exclusive content delivered right to your inbox, and you'll stay in the loop on topics important to you!

### CONNECT WITH US



Find us on Facebook at [facebook.com/OnsiteInstaller](https://facebook.com/OnsiteInstaller)  
or Twitter at [twitter.com/OnsiteInstaller](https://twitter.com/OnsiteInstaller)





# BEYOND THE BACK YARD

## ANCHORING THE NATION'S WATER INFRASTRUCTURE

Precast concrete water and wastewater systems go beyond the back yard, anchoring wastewater infrastructure with tailored community, commercial and municipal systems that collect and treat wastewater and protect our environment.

Whether in the back yard, or in the community, you can count on precast concrete wastewater structures for unmatched strength, durability and service.

We're local.  
We build infrastructure.  
We're **precast proud.**

**PRECAST PROUD**



Find local precast producers at: [precast.org/find](https://www.precast.org/find)  
Learn more about precast on-site wastewater tanks at [precast.org/onsite](https://www.precast.org/onsite)



## INSTALLER PROFILE



# EXTRA SPECIAL CARE

Delaware Valley Septic, Sewer & Storm takes measures to install quality systems with minimal site disturbance for high-value homes in southeast Pennsylvania

By Ted J. Rulseh

**F**or Delaware Valley Septic, Sewer & Storm, a typical onsite system installation serves a home with five to eight bedrooms, plus ancillary structures, often with a pool and tennis court, usually with elaborate and costly landscaping.

That means large systems, of course, but also meticulous care for the properties. High-income customers expect quality work, and that includes as little disturbance to sites as possible.

"We are in a very affluent area where people expect the best service and perfect landscaping after installation and repair work," says T.J. Dell'Arciprete, equal partner in the business with brother-in-law David DiGregorio.



◀◀ The Delaware Valley Septic, Sewer & Storm crew includes, from left, David DiGregorio, Rafael Barillas Anaya, Jim Softchin, Eliud Barillas Anaya, Nestor Barillas Anaya, Korey Cook, Mike Springer and T.J. Dell'Arciprete. (Photo by Kevin Blackburn)

▶▶ Eliud Barillas Anaya rakes out a subsurface bed consisting of 2 feet of sand and 1 foot of crushed stone and perforated pipe. The excavator is a Komatsu PC35. (Photo courtesy of Delaware Valley Septic, Sewer & Storm)

“They’re looking for top-notch service for the most cost-effective price.”

The two bought the business in 2014 from David DiGregorio’s father, Ron DiGregorio, but they’ve actually operated it since 2005. Besides installations, the company does brisk business in system inspections, tank pumping, pipe inspection, waterjetting and stormwater basin testing and construction.

Working out of Springfield, Pennsylvania, near Philadelphia and serving Chester, Montgomery and Delaware counties, the company has expanded rapidly. It tripled in size from 2005 to 2014 and since then has seen 20 percent growth per year. The partners expect that to continue in 2019.

## GREAT EXPECTATIONS

Delaware Valley serves an area known for excellence in education: It is home to prestigious private K-12 schools and universities, and its public school systems rank among the best in the United States. Homes worth a million dollars and much more are common, and many are Delaware Valley customers for replacement septic systems or stormwater retention basins.

Serving those customers takes an exceptional level of care. Dell’Arciprete observes, “When we do an install, we’re back at people’s houses, touching things up, filling in soil when excavations settle or getting grass professionals in to treat the final landscapes. We do whatever is necessary to make sure the product on top of the ground is just as satisfactory as what’s under the ground.”

About 75 percent of the company’s installs are replacement systems. That often means working in tight quarters, avoiding sprinkler systems, dog fencing, botanical beds and much more. “We want our clients disturbed as little as possible,” Dell’Arciprete says. “Sometimes we use track matting. When we do deep holes, we put all the soil on a mat and then put it back.

“Most times, clients don’t realize how invasive installation and repair work will actually be. Seeing a design on paper is a lot different than the reality of having your property damaged by all the earth-moving work required to complete a job. We tell our clients their property will look like a bomb hit it for about a week, but then it will all be restored the following week.”



## Delaware Valley Septic, Sewer & Storm, Springfield, Pennsylvania

**Owners:** T.J. Dell’Arciprete and David DiGregorio  
**Founded:** 1986  
**Employees:** 10  
**Service area:** Chester, Montgomery and Delaware counties  
**Specialties:** Conventional and advanced onsite systems  
**Affiliations:** Pennsylvania Septage Management Association  
**Website:** [www.delvalseptics.com](http://www.delvalseptics.com)



✓ Mike Springer, left, and Jim Softchin use an Extreme tripod to hoist a pump from Sulzer Pumps Solutions out of a commercial pump station at a health care facility. Two pumps came out for inspection; one was burned out due to clogging with wipes. (Photo by Kevin Blackburn)



✓ David DiGregorio uses a Komatsu excavator for some site preparation work. The company's high-end customers demand a clean work site and minimal landscape disturbance, so mats from AlturnaMATS by Checkers Industrial Safety Products were placed to hold the spoils. (Photo by Kevin Blackburn)



David DiGregorio recalls an installation that represents the kind of challenges the company faces. "The home was on a huge hill and they had a system that had been surfacing for months," he says. "Another contractor had been hired to provide a solution. They proposed a drip system with two zones in front and two zones on the side.

"We were hired as a consultant. We proposed putting everything upgradient. We changed the design and did new soil morphology. We designed a system that put everything in one spot." The four-zone drip system included 3,500 linear feet of drip tubing, installed on a steep slope.

"The tubing installation took three days. Because of shallow rock, a lot of the work had to be done by hand. They had a huge swimming pool and probably a half-million-dollar landscaping bed. We had a small area to get into with our delivery lines and a small area to drop in our tanks.

"As soon as the install was done, the client wanted everything sodded immediately. We ordered in 6,000 square feet of sod. The amazing part was that after three weeks of challenging work, when we were done, it looked like we had never been on the property."

---

"We are in a very affluent area where people expect the best service and perfect landscaping after installation and repair work."

**T.J. Dell'Arciprete**



## SUPERSIZED SYSTEMS

Sensitivity to owners' properties isn't the only challenge of building systems for large homes. The systems themselves need to be much larger than for the typical rural or suburban dwelling. Health Department regulations call for sizing systems based on the number of bedrooms. For Delaware Valley that means installing 1,200- to 1,600-square-foot drainfields for five- to eight-bedroom estates.

In addition, Dell'Arciprete says, "Every time they have a separate dwelling that could be used as an apartment, we have to count that as another three-bedroom structure. Many of our clients have au pair suites, in-law quarters, pool houses with apartments on the top and garages with offices on top. If it's separated from the home, it requires the three-bedroom minimum.

"We can tie them all into the same system, but the square footage of the drainfield and the size of the septic tank have to be increased accordingly." The typical installation includes two 1,000-gallon precast concrete septic tanks in series; some systems have three tanks, when pumps are required.

## BEST FRIENDS FIRST

Ron DiGregorio founded Delaware Valley Septic, Sewer & Storm in 1986. It is still very much in the family. DiGregorio's son David DiGregorio bought the business in 2014 with T.J. Dell'Arciprete.

Best friends since high school, DiGregorio and Dell'Arciprete worked for the company during summers. DiGregorio left to earn a degree in hotel and restaurant management from Penn State University and took a job in a commercial kitchen. Dell'Arciprete studied at what he calls "the school of hard knocks" and built a career in telecommunications sales.

"In 2005 my dad developed a brain tumor," DiGregorio recalls. "When my dad got sick, we both quit our jobs and came back to help out."

Dell'Arciprete adds, "It's the nature of what families do. Families step in and just get it done. I've known David since I was 16. I married his sister, and I love his family so much. We're best friends first, brothers-in-law second and business partners third." Both are state-certified as Sewage Enforcement Officers.

With DiGregorio's knowledge of the business built on lessons from his father and Dell'Arciprete's sales training and experience, the two took off on a fast growth trajectory. "We're both good with people," Dell'Arciprete says. "We're hospitable. We want to do what's best for our clients and our company — we've always thought and felt that way.

"David and I have a dynamic relationship. It basically can't be broken. I trust him implicitly, he trusts me implicitly and it works. We have different personalities, and that works, too. Some customers want to deal with me; I'm a more aggressive personality. Some like to deal with David because he's more, 'I'll take care of you.' It's a good fit all the way around."

## EZconnex® 4-PORT SYSTEM

### Revolutionary Float Switch Connection System

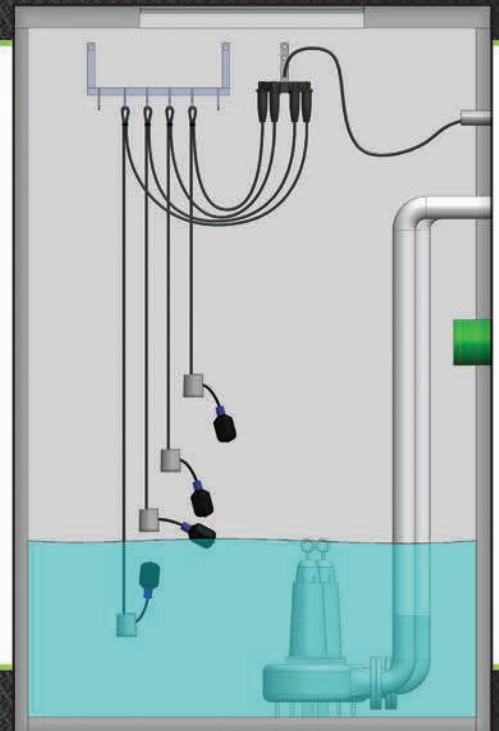
**Installation is as easy as 1, 2, 3...** Simply install the manifold, plug in the floats, and wire the manifold cable to the control panel. The color-coded cable makes for a quick, clean installation! The quick release float switch connections allow for easy maintenance and replacement of floats, saving installers time and money...up to 75%! Many float switch options and 3-port manifold available to suit your needs!



- Simple, clean installation
- Up to 4 quick release floats
- Mounts directly in riser
- Great for new and retrofit applications
- Easy maintenance



US Patent No.  
9,559,455 and 9,583,867  
Foreign Patents Pending



[www.sjerhombus.com](http://www.sjerhombus.com)







◀◀ Nestor Barillas Anaya performs a perc test at a system installation site. (Photo by Kevin Blackburn)

"We used to run everything with backhoes. **But with the excavators, it's much easier to work in tighter spaces.**"

**David DiGregorio**

Delaware Valley installs about half conventional and half advanced treatment systems. For aerobic treatment units, the company relies on Jet Inc. systems. Other advanced systems use prefabricated geotextile sand filters (Eljen), designed to provide passive advanced treatment for residential and commercial applications.

"We've also installed quite a few Ecoflo Coco peat filters (Premier Tech Aqua) recently for absorption area reductions and at-grade system requirements," Dell'Arciprete says. "They are great because now the tanks come with the media already installed and the pumps are inside the component, eliminating the need for another tank and lift pump."

### INTO THE FIELD

In day-to-day life, DiGregorio spends much of his time interacting with customers on site, while Dell'Arciprete handles the office with wife and office manager Rachel. Two-person teams go on inspections; up to three installation crews can be at work at any given time.

The Delaware Valley team includes Jim Softchin and Rafael Barillas Anaya, field supervisors; Eliud Barillas Anaya, Mike Springer and Nestor Barillas Anaya, laborers; and Korey Cook, pump truck operator.

## A TOUCH OF TECHNOLOGY

Wi-Fi in septic systems? It's a coming thing for certain affluent customers of Delaware Valley Septic, Sewer & Storm. Some customers have septic tanks with alarms that are being triggered because of rainfall infiltration; others are on holding tanks that need regular and frequent pumping.

"We're installing Wi-Fi and Mi-Fi connections and using their routers to email us when there is an alarm condition," says partner David DiGregorio. "The alarms are silenced. When the alarm is triggered, we receive an email and send the pump truck without any phone calls or other interactions.

"We're going to put them in wherever we have clients who are struggling with failing systems. We have an area near us that is being converted to sewer, and about 1,000 homeowners are waiting for the sewer line to come in. Some are in dire distress situations where we pump every other week. We're going to put the Wi-Fi connections in wherever someone needs to get pumped before the liquid rises to the level of the sewer line and causes a backup."





▲ The company added a septic pumping truck in 2014 for greater scheduling convenience, and now the truck is used to pump 1,200 tanks per year. Mike Springer and Korey Cook are shown pulling hoses from the 2007 Mack, built out by Presvac Systems and running a National Vacuum Equipment blower. (Photo by Kevin Blackburn)

The company owns two equipment trailers (Towmaster and Bri-Mar), a dump truck (Mack), pickup trucks (2015 Chevrolet Silverado and two 2017 Dodge Ram 3500s) and a service van (2017 Mercedes-Benz Sprinter 3500) with Kargo Master upfit.

The go-to machines are two Komatsu PC35 rubber-tracked excavators (2014 and 2017) with an auger attachment and a 2018 Takeuchi TL8 tracked skid-steer with a RockHound attachment.

"We used to run everything with backhoes," DiGregorio says. "But with the excavators, it's much easier to work in tighter spaces. We need an opening 6 feet wide to get into the site with them, and they weigh about 8,000 pounds." A larger Komatsu PC138 excavator is rented for larger septic systems and stormwater work.

Septic system pumping has become a major revenue source. The company used to outsource its pumping service to another contractor but brought it in-house in 2014. Now Cook and a 2007 Mack vacuum truck with a 4,000-gallon steel tank (Presvac Systems) and (National Vacuum Equipment Challenger 4307) vacuum blower pump 1,200 tanks per year. That includes servicing customers on holding tanks or with failing systems that need pumping as often as every one or two weeks.

## MEETING ALL CHALLENGES

The stormwater side of the business includes double-ring infiltrometer testing (similar to perc testing) for retention basins and excavating for those basins. "In our area, if you put in a pool or patio or an addition on your house, you have to control your runoff," Dell'Arciprete says. "For years, everyone ignored stormwater and a lot of runoff damage had been occurring on neighboring properties near streams and water reservoirs. Now the pendulum has swung to the opposite side."

DiGregorio adds, "We worked on a brand-new \$2 million, 5,500-square-foot home. Every drop of water, from the roof and driveways and all the impervious surfaces is captured in inlets and downspouts and goes into a basin 90 feet long, 20 feet wide and 8 feet deep."

Another line of work is pipe inspection and cleaning. The company uses

**"For years, everyone ignored stormwater and a lot of runoff damage had been occurring on neighboring properties near streams and water reservoirs. Now the pendulum has swung to the opposite side."**

**T.J. Dell'Arciprete**

RIDGID push cameras with cables 85 to 200 feet long for pipes 1.5 to 6 inches. For cleaning, the company deploys a Spartan Tool Warrior 4,000 psi/20 gpm trailer-mounted jetter and a Spartan 717 Electric Mini Jet (2,700 psi/4 gpm). Both use an assortment of Warthog nozzles (StoneAge).

While the business grows, the partners plan to spend more time building an office infrastructure able to support further expansion. That includes an emphasis on marketing.

"We just invested about \$10,000 in branding," Dell'Arciprete says. "All our trucks look the same and carry our new logo. We have new uniforms, and we've ordered winter gear. On streets where half of the clients are with us already, we're marketing to potential new clients with postcards and (email software program) Constant Contact.

"This is also important to our annual maintenance clients because it helps us schedule efficiently. We drive down prices by going from house to house on the same street on the same day or week, depending on the number of homes to be serviced. That way we're not running to the same street sporadically throughout the course of a year.

"We just want to do everything as best as possible, and if we don't, we'll fix it. There's nothing we can't do or nothing we can't fix." ■

## featured products

**AlturnaMATS by Checkers Industrial Safety Products**  
888-544-6287  
[www.alturnamats.com](http://www.alturnamats.com)

**Eljen Corporation**  
800-444-1359  
[www.eljen.com](http://www.eljen.com)  
(See ad on page 29)

**Jet Inc.**  
800-321-6960  
[www.jetincorp.com](http://www.jetincorp.com)  
(See ad on page 41)

**National Vacuum Equipment, Inc.**  
800-253-5500  
[www.natvac.com](http://www.natvac.com)

**Premier Tech Aqua**  
800-632-6356  
[www.premiertechaqua.com](http://www.premiertechaqua.com)

**Presvac Systems**  
800-387-7763  
[www.presvac.com](http://www.presvac.com)

**RIDGID**  
800-769-7743  
[www.ridgid.com](http://www.ridgid.com)

**Spartan Tool**  
800-435-3866  
[www.spartantool.com](http://www.spartantool.com)

**Sulzer Pumps Solutions Inc.**  
800-525-7790  
[www.sulzer.com](http://www.sulzer.com)



# Make Sure Your Team Is Prepared When Disaster Strikes

An emergency plan will serve your installing crew well when they navigate trenches, work with heavy machinery or plug in the power tools

By Jared Raney

If your crew member was pressure testing a pipe when suddenly the plug was blown out and that worker was thrown from the ladder and became pinned inside a manhole, would you know what to do?

For the crew at Horizontal Boring, that's not a hypothetical scenario. It happened to one of its workers, and thankfully they knew exactly how to handle the situation.

"They had to execute the emergency action plan to remove the injured employee from the manhole, bring him up to safety, get the ambulance and safety manager on site and assess the injury," says Ernie Romero, owner of the company, based in Phoenix.

As a result, the employee escaped the situation with no more than minor injuries, showing that emergency action plans can be the deciding factor in whether an employee lives or dies on a work site accident.

**"It's very important to have somebody involved — whoever's dealing with your safety plans and your emergency action plans — who understands the OSHA requirements, to have a background in safety, and to really understand the requirements and the actions necessary."**

**Ernie Romero**

## DRAFTING A PLAN

With all the paperwork and red tape attached to every work site, it can be easy to overlook planning for hypothetical emergency situations. But it's an item that must be crossed off — if not to avoid penalties, then simply for peace of mind.

"That's the last call you ever want to get — an injury on site," Romero says. "At times there are sites that may have some varying circumstances that require we implement an emergency action plan."

Beyond simple best practice, if caught without an emergency action plan, your company will be fined by OSHA. Their safety and health regulations for construction require emergency action plans in writing for each construction site, which "must cover those designated actions employers and employees must take to ensure employee safety from fire and other emergencies."

Penalties can range from \$10,000 to over \$100,000. There are different standards of violation; for example, initial posting requirement violations are listed as \$12,934





per violation, but a willful or repeated violation jumps to \$129,336 per violation.

OSHA provides information through its website on emergency action plans and requirements, including an eTool to help companies develop their plans.

“It’s typically going to consist of the possible emergencies on any given site, what may happen if that does take place, and then we’ll address actionable steps to follow, and we’d have the written procedures for that,” Romero says. “We’re going to have exit routes — we usually like to set two meeting points for everybody if an emergency takes place, a primary and a secondary, to ensure if the emergency takes place at the primary meet point, then we have the secondary to meet at. Those are really the general points we’re looking to cover in our action plans.”

Emergency action plans can be as in-depth as outlining the specific safety duties of each employee on site, even down to subcontractors involved in the work, as well as safety inspection procedures, accident investigation and reporting.

## TAKING THE LEAD

The supervisor in charge of setting up the emergency plan will look at what reporting agencies are nearest, as well as the closest hospitals, so workers know who to contact and where to go.

“I think it’s very important to have somebody involved — whoever’s dealing with your safety plans and your emergency action plans — who understands the OSHA requirements, to have a background in safety, and to really understand the requirements and the actions necessary should certain events occur,” Romero says.

Horizontal Boring has a dedicated, full-time safety manager with 30 years’ experience in safety management and a comprehensive safety-first program, ensuring safety requirements like emergency action plans don’t fall through the cracks.

That manager runs monthly companywide safety meetings, as well as weekly on-site meetings for each work site. The company’s overall safety program is constantly evolving.

## IT WORKS

Horizontal Boring’s case of its employee who was injured in the blowout is proof that having an emergency plan can save lives.

“They were prepared for it, and it’s always good to see,” Romero says. “We’re all responsible for

safety, all of us out on site, and we take it extremely seriously. Accidents do happen and things happen that are outside of our control. But when it does happen, you just want to ensure that you have the best plans in place and everyone is best prepared to deal with those situations.” ▣



# Delivered Price – Quantity Discounts

**WaterCannon.com • 1.800.333.9274 (WASH) en Espanol: 1.800.917.9274**

 <p><b>Hydraulic Driven</b> 20 GPM up to 5000 PSI</p>	 <p><b>Portable Electric - Low RPM</b> 3.5 GPM 3500 PSI 7.5 HP</p>	 <p><b>Portable Gas 4000 PSI</b> Honda Kohler Lifan</p>
 <p><b>Car And Truck Detailer</b> Auto-Stop/Start - Complete with Reel 100' Hose</p>	 <p><b>Hot Water Portable 420 cc Gas</b> 4 GPM 4000 PSI 120 Volt</p>	 <p><b>Hot Water Portable Honda 389 cc</b> 4 GPM 4000 PSI 12 Volt</p>
 <p><b>Hot Water Portable 440 cc</b> 4 GPM 4000 PSI 12 Volt</p>	 <p><b>Hot Water Portable 440 cc Gas</b> 4 GPM 4000 PSI 120 Volt</p>	 <p><b>Hot Water Portable Honda 389 cc</b> 4 GPM 4000 PSI 120 Volt</p>
 <p><b>Indoor Electric 5 to 50 HP</b> 208/440/575 Volt Up to 15000 PSI</p>	 <p><b>Hot Water Portable - Electric</b> 3.5 GPM 3500 PSI 7.5 HP</p>	 <p><b>7000 PSI Gas or Diesel Powered</b> Industrial Package Hose Reel</p>
 <p><b>Portable Auto/Truck Detailer</b> Yard duty Trailer – 100 Gallon</p>	 <p><b>Hot Water Electric Powered - Oil Fired</b> Up to 50 HP Up to 8000 PSI</p>	 <p><b>Electric Heated - Electric Motor</b> High Capacity 10 GPM Up to 5000 PSI</p>
 <p><b>Hot Water 150° F - 6'x6"</b> 225 Gallon Gas and Diesel</p>	 <p><b>Diesel Engine - Diesel Burner</b> Up to 10 GPM 11,500 PSI</p>	 <p><b>Hot Water LP Natural Gas Oil Fired</b> Up to 2,000,000 BTU's 20 GPM</p>
 <p><b>Cabinet Hot Water Heaters</b> 12 or 120 Volt – Up to 2,000,000 BTU's 20 GPM</p>	 <p><b>Customizable Jetter Packages</b> 12 GPM – 3500 PSI</p>	

Orlando | Phoenix | Minneapolis | Hattiesburg | Melbourne | Toronto | Bogota Int'l: 1-321-800-5763

Industry Trained Staff available from 8:30 a.m. to 6:00 p.m. weekdays E.S.T. Water Cannon is proud to be a **MWBE**



# An Iowa Farming Community Shapes Its Decentralized Wastewater Future

A complex mix of individual and cluster systems helps Rowan, Iowa, clean up the environment and serve the treatment needs of homes and businesses for generations to come

By David Steinkraus

**R**owan, Iowa, is a small community of just over 150 people, but a few years ago it confronted a big change. The state required the upgrade of all the wastewater systems serving the city because effluent was flowing into a field tile that emptied into a creek about a quarter mile from its borders.

Mort's Water Co., a five-generation firm based in nearby Latimer, received the contract for the yearlong project. The company knew the project was coming. During the city's three-year planning process, Mort's had been asked to provide expert advice. As the winning bidder for the job, the company put its expertise to the test.

## Systems

The mix of lot sizes and available areas for absorption fields resulted in a mix of solutions.

There are:

- 50 conventional gravity septic tanks feeding individual drainfields that use Infiltrator Water Technologies Quick4 Plus chambers.
- 16 septic-tank-effluent-pump tanks feeding individual drainfields with Infiltrator Water Technologies chambers.
- 18 STEP tanks feeding pressure mains that lead to two drainfields for a cluster of homes.
- Three Orenco Systems AdvanTex pods feeding individual drainfields.

For the conventional and STEP systems, Mort's used two-compartment tanks from Wieser Precast Steps in Stewartville, Minnesota. The AdvanTex AX20 systems were offset on top of the Wieser Precast Step tanks.

▲ Infiltrator Water Technologies chambers were part of the wastewater solution for many homes in Rowan, Iowa. In some cases, the crew from Mort's Water Co. was able to rearrange drainfields to save space. (Photos courtesy of Mort's Water Co.)



➤ Many homes in Rowan, Iowa, were converted from a community collections system to individual gravity-flow tanks feeding a drainfield on the property. Wieser Precast Steps tanks were used, as well as Orenco Systems risers and Polylok lids.

✓ The team from Mort's Water Co. lays pipe to feed 4,200 feet of Infiltrator Water Technologies chambers for the large cluster system as part of the wastewater upgrades in Rowan.



STEP systems used pumps and pump vaults from Clarus Environmental. All tanks use Orenco Systems risers. Half the tanks are topped with Orenco Systems lids and half with Polylok lids.

The project also required making 91 sewer hookups, laying 20,400 linear feet of Infiltrator Water Technologies chambers and boring 6,000 linear feet of 1 1/2-inch force main.

About 16 wells, hand-pumped and used mainly to water gardens, had to be capped and abandoned because they were too close to a treatment system.

To do the work, Mort's used a:

- 2017 Case CX80C excavator.
- 2017 Case TR340 compact track loader. This was acquired for this project and was very useful because it could be driven across drainfields as soon as they were backfilled.
- 2005 Sterling Acterra tractor with a Knapheide service body.
- 2009 Sterling Acterra dump truck with a box from Godwin Mfg. Co.
- 2019 M2 106 Freightliner with a 3,650-gallon stainless steel tank and National Vacuum Equipment 4310 blower from Advance Pump & Equipment. This truck pumped out old tanks before they were abandoned.
- MX7 Harley Power Rake by Paladin Attachments for grading.
- 2010 Case 36B mini-excavator.
- 2010 Astec boring machine.
- 2014 Case 590N backhoe.

## System Profile

<b>Location:</b>	Rowan, Iowa
<b>Facility served:</b>	City of Rowan
<b>Designer:</b>	Forrest Aldrich, Veenstra & Kimm, West Des Moines
<b>Installer:</b>	Mort's Water Co., Latimer
<b>Type of system:</b>	Gravity and pressure systems with some AdvanTex pretreatment
<b>Site conditions:</b>	Loamy silt

## Starting easy

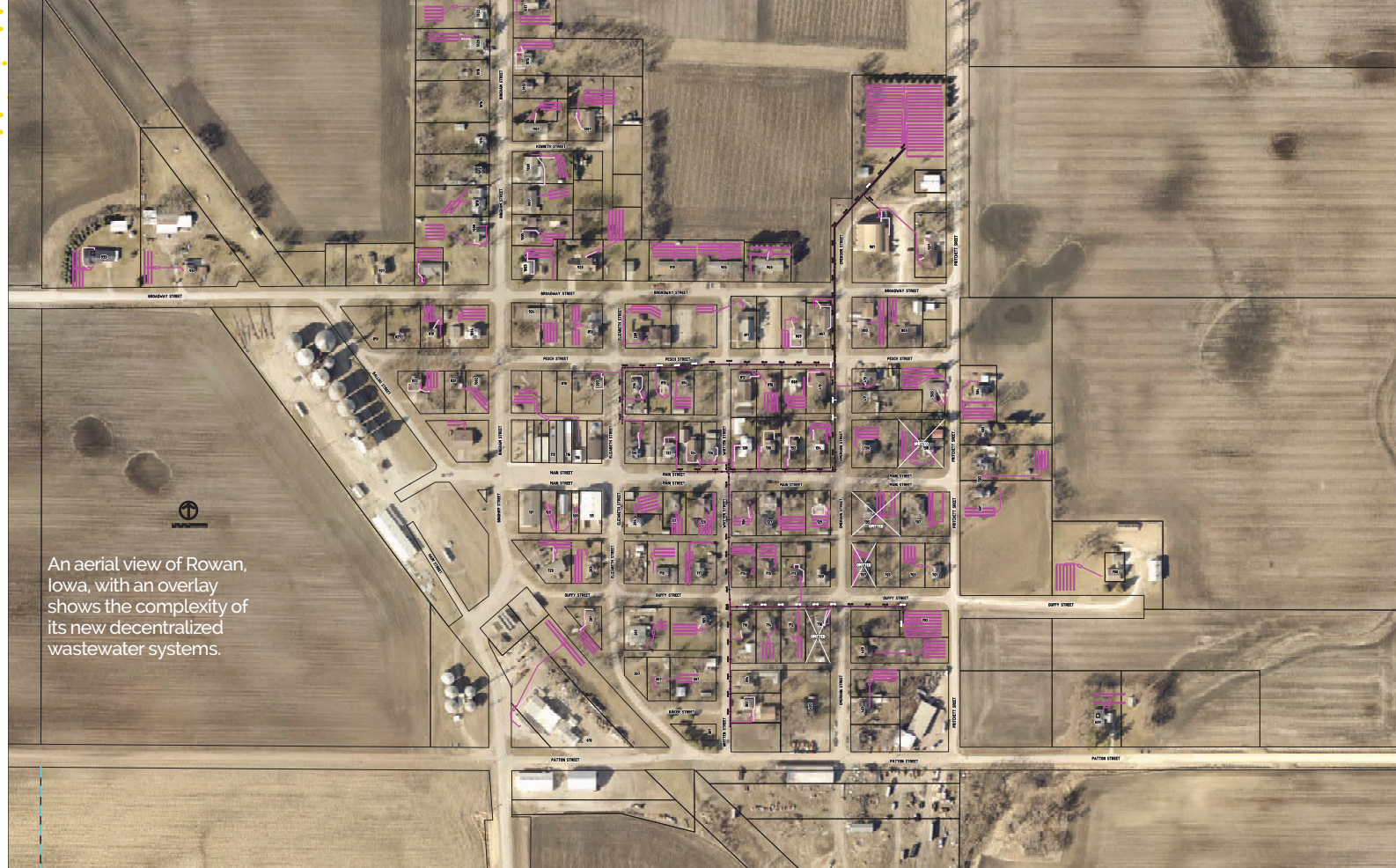
When the work started in the fall of 2017, installations began with the gravity systems on lots with the most space because those were similar to typical residential installations performed by the company, says Brandon Morton, the project manager for Mort's.

"We wanted to get a good start on the job because we were not sure how long the work would take, and we didn't want to run over our time. As work progressed, the city gave us needed extensions for subcontractor work because they wanted the job done right," Morton says.

Every one to two weeks, the Mort's crew would look over the jobs ahead and pick five or six properties to work on. They would examine the engineering drawings and in some cases suggest changes so drainfields better fit the space. They would have all the utilities located at once, then pick one to two properties for each day. Tanks were delivered on each working day, and the Infiltrator Water Technologies chambers were installed after. For most gravity systems, Morton and his partner Travis Hunter put in two tanks per day.

After the simplest installations, work shifted to the lots with tighter space. Then the crew tackled the STEP systems feeding a drainfield on the





An aerial view of Rowan, Iowa, with an overlay shows the complexity of its new decentralized wastewater systems.

**"We wanted to get a good start on the job because we were not sure how long the work would take, and we didn't want to run over our time. As work progressed, the city gave us needed extensions for subcontractor work because they wanted the job done right."**

**Brandon Morton**

property. Last they worked on the AdvanTex systems and the STEP systems feeding the cluster drainfields.

Plans originally called for eight AdvanTex units, but once the crew was on site, they saw ways to lay out drainfields so gravity or STEP systems were possible. As a result, only three AdvanTex units were used for the project.

On a few lots, the crew found steel tanks that had disintegrated. "They were all dirt. The liquid was running over the top from the inlet to the outlet. It was working, but it wasn't doing any treatment at all," Morton says. It was easiest to pull those tanks out.

Most of the existing concrete tanks were not up to code and were abandoned in place. On a few properties, owners had installed newer tanks that could be reused for the new systems.

Drainfields for the cluster systems were installed in the fall 2017 so soil could settle during the winter. Distribution boxes and incoming pressure lines were laid at the same time.

Morton and Hunter did about 90 percent of the work on their own. Directional boring for lines was done by the company's specialized three-person crew, and wells were abandoned by the company's licensed pump installers.

Service to homes was interrupted for two to three hours at most. The hard part of that was estimating what time tanks had to be delivered based on how much space there was and how deep it had to be placed. New tanks were connected on the same day they were installed, but drainfield lines didn't have to be connected immediately because tanks would not be filled for a couple of weeks, Morton says.

The old wastewater system was abandoned in part or in total depending on each house, Morton says. For homes with perimeter tiles and floor drains, the crew plumbed from the old tank's inlet to outlet to preserve the floor drain. In homes without floor drains, technicians abandoned the old tanks in place by plugging outlets.

## Necessary plumbing

Inside plumbing was done by Morton, Hunter and another crew on rainy days and during winter. Under Iowa code, anything that touches a human body or is from a human body must go to a wastewater system, Morton says. But in one home, for example, they found a clothes washer discharging into a floor drain. "We had to re-plumb that washing machine so water flowed by gravity into the system. If we can keep everything gravity, it's better for us and better for the customers because then there are no mechanicals to deal with."

In some cases, they could raise the height of the wastewater outflow. In other cases, homeowners opted to abandon a basement shower to avoid the need for a pump to lift the wastewater. "These are older houses with 7- to 8-foot basement ceilings," Morton says. About a fourth of the properties needed to have wastewater discharges raised to maintain gravity flow.

continued >>



# ProVore<sup>®</sup>

# Liberty Pumps<sup>®</sup>

A Family and Employee Owned Company

**Make the shift from  
solids-handling to grinder!**



## **1 hp. Grinder Pump**

Now get the robust performance of a grinder while operating on standard 115 volt or 230 volt circuitry.

## **Patented V-Slice<sup>®</sup> Cutter Technology**



Patent: See [www.LibertyPumps.com/patents](http://www.LibertyPumps.com/patents)

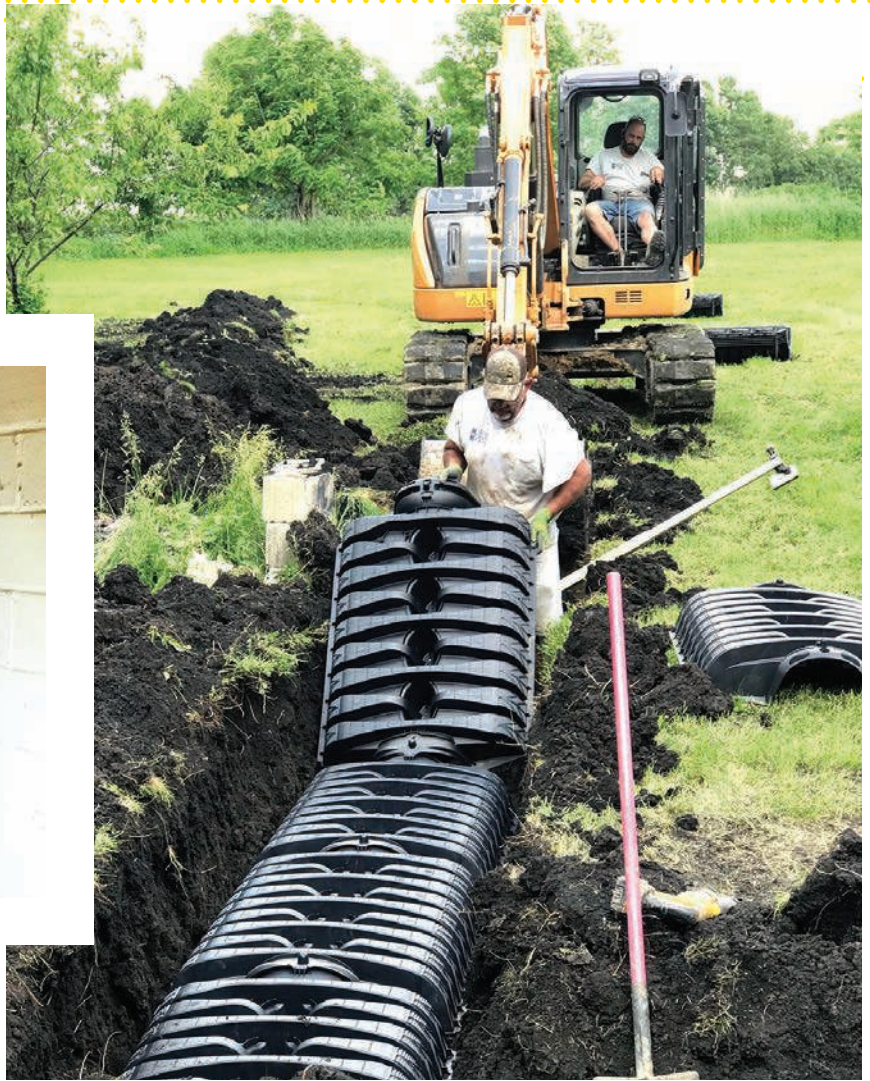
**800.543.2550**  
**libertypumps.com**

**7000 Apple Tree Ave.**  
**Bergen, New York 14416**



» Chris Vanness, foreground, and Travis Hunter, in the excavator, lay a row of Infiltrator Water Technologies chambers in Rowan, Iowa. Mort's Water Co. converted the town from a collector system emptying into a creek to a modern wastewater system with a variety of treatment solutions. The project included laying about 20,000 linear feet of Infiltrator Water Technologies chambers.

» Part of the work in Rowan included maintaining gravity flows from homes into new wastewater systems. In some cases, that required raising the outflow of household discharges. Brandon Morton is working on that here.



Some discharge pipes from homes were about a foot below grade to maintain a gravity system. As long as there is snow on the ground, those pipes will be insulated against winter freezes, Morton says. Because driveways are cleaned of snow in winter, pipes running beneath them were insulated with pink sheet insulation cut into 2-inch-by-8-foot sections to fit in the pipe ditch.

The company's licensed plumber changed the path of backwash water from the iron filter for the city domestic water system. Wash water was flowing into a floor drain that eventually emptied into the same creek taking the rest of the city effluent, but the Iowa Department of Natural Resources didn't want this because of the iron sediments in the wash water. So Mort's plumbed the flow into four 3,000-gallon holding tanks that are pumped as needed.

The Rowan job was a great learning experience for the company, Morton says. Rethinking drainfields for tight spaces in the city has helped installers more efficiently arrange drainfields for rural systems the company has done since.

There is still a little finish work left in Rowan, primarily seeding after the thaw in the spring of 2019.

Mort's has been in operation for decades and has always done septic, pump and well work, and water conditioning but this was its first community project, Morton says. It may not be the last. More communities in this area of north-central Iowa (about 87 miles north of Des Moines) have received warning letters from the state about the need for wastewater upgrades, and some of those communities are within easy working distance of Mort's base in Latimer. With one project under its belt, Mort's is ready to help other Iowa communities improve their wastewater systems and protect the rural environment. ■

## featured products

**Advance Pump & Equipment, Inc.**  
563-557-0957  
[www.advancepump.com](http://www.advancepump.com)

**Clarus Environmental**  
800-928-7867  
[www.clarusenvironmental.com](http://www.clarusenvironmental.com)

**Godwin Manufacturing Co., Inc.**  
800-892-0181  
[www.godwinmfg.com](http://www.godwinmfg.com)

**Infiltrator Water Technologies, LLC**  
800-221-4436  
[www.infiltratorwater.com](http://www.infiltratorwater.com)  
(See ad on page 3)

**National Vacuum Equipment, Inc.**  
800-253-5500  
[www.natvac.com](http://www.natvac.com)

**Orenco Systems, Inc.**  
800-348-9843  
[www.orenco.com](http://www.orenco.com)

**Paladin Attachments**  
800-456-7100  
[www.paladinattachments.com](http://www.paladinattachments.com)

**Polylok, Inc.**  
877-765-9565  
[www.polylok.com](http://www.polylok.com)  
(See ad on page 52)

**The Knapheide Mfg Co**  
217-222-7131  
[www.knapheide.com/about-us/never-settle](http://www.knapheide.com/about-us/never-settle)





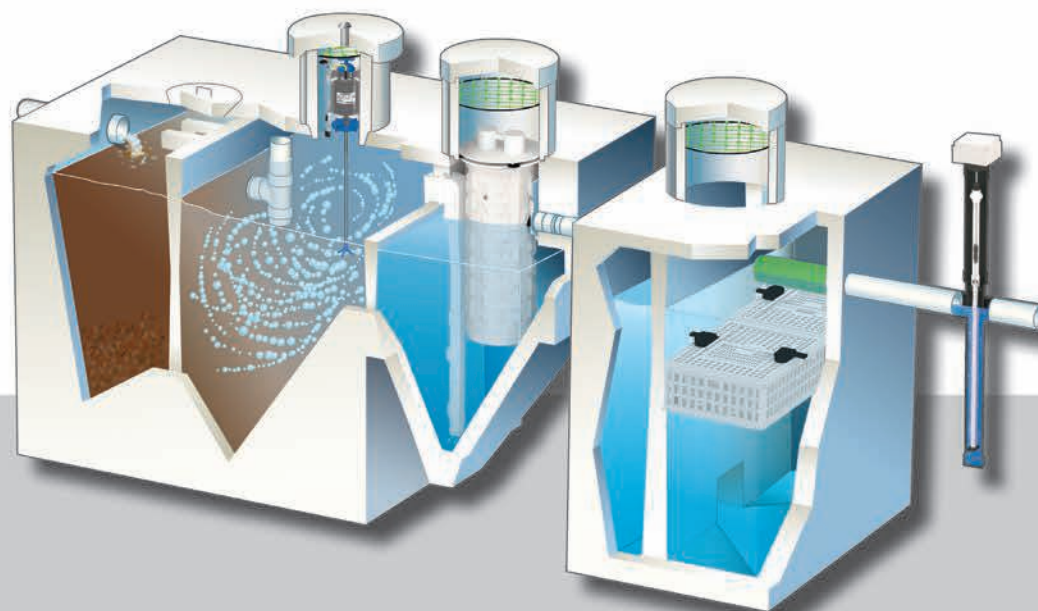
# Cutting-Edge Solution

## Innovative Wastewater Treatment

**SINGULAIR®**

**R3** Reduce  
Reuse  
Recycle

When a revolutionary wastewater treatment system **REDUCES** water consumption, **REUSES** treated effluent and **RECYCLES** water to conserve and recharge our water resources...  
...that's innovative.



The new Singulair **R3** has created opportunities for your business:

- Latest technology to comply with environmental regulations
- Demand for improved methods to treat domestic wastewater
- Competitive advantage and increased profits for your business

***norweco®***

1-800-NORWECO  
[www.norweco.com](http://www.norweco.com)



Download the Norweco app today!





Advertisers in the  
magazine are listed in  
**blue & bold.**

# 2019 ANNUAL BUYER'S GUIDE



## ALPHABETICAL LISTINGS



**A**

**Advanced Drainage Systems, Inc.**  
4640 Trueman Blvd.  
Hilliard, OH 43026  
800-821-6710 • Fax: 614-658-0204  
info@ads-pipe.com  
www.ads-pipe.com

**AK Industries**  
PO Box 640  
Plymouth, IN 46563  
800-370-3749 • Fax: 574-935-8470  
pete@akindustries.com  
www.akindustries.com

**Alita Industries, Inc.**  
13311 Brooks Dr., Ste. B  
Baldwin Park, CA 91706  
626-962-2116  
sales@alita.com  
www.alita.com  
**Ad on page 45**  
**Aquaworx by Infiltrator**  
4 Business Park Rd.  
Old Saybrook, CT 06475  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com

**Arcan Enterprises**  
PO Box 31057  
Clarksville, TN 37040  
888-352-7226 • Fax: 931-368-1904  
arcan@charter.net  
www.arcan.com  
**Ad on page 51**

**Ashland Pump**  
1899 Cottage St.  
Ashland, OH 44805  
855-281-6830  
www.ashlandpump.com  
**Ad on page 7**



**ATL by Infiltrator**  
4 Business Park Rd.  
Old Saybrook, CT 06475  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com



**B**



**BioMicrobics, Inc.**  
16002 W 110th St.  
Lenexa, KS 66219  
800-753-3278 • 913-422-0707 • Fax: 913-422-0808  
sales@biomicrobics.com  
www.biomicrobics.com  
**Ad on page 10**

**BrenLin Company, Inc.**  
13999 Cty. Rd. 11  
Herman, MN 56248  
888-606-1998 • 320-677-2838 • Fax: 320-677-3001  
brenlin@frontiernet.net  
www.seal-r.com  
**Ad on page 43**



# A Directory of Onsite System Manufacturers and Suppliers

800-257-7222 or 715-546-3346 | [www.onsiteinstaller.com](http://www.onsiteinstaller.com)

## C



**Cam Spray**  
520 Brooks Rd.  
Iowa Falls, IA 50126  
800-648-5011 • 641-648-5011 • Fax: 641-648-5013  
sales@camspray.com  
www.camspray.com  
**Ad on page 10**

### Crest Precast, Inc.

609 Kistler Dr.  
LaCrescent, MN 55947  
800-658-9045 • 507-895-2342 • Fax: 507-895-2377  
info@crestprecastconcrete.com  
www.crestprecastconcrete.com  
**Ad on page 43**

## D

### Delta Treatment Systems, LLC

9125 Comar Dr.  
Walker, LA 70785  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com



### Den Hartog Industries, Inc.

PO Box 425  
Hospers, IA 51238  
800-342-3408 • 712-752-8432  
sales@denhartogindustries.com  
www.denhartogindustries.com  
**Ad on page 33**

## E

### Easy Kleen Pressure Systems Ltd.

41 Earnhardt Rd.  
Sussex Corner, NB E4E 6A1  
Canada  
800-315-5533 • 503-433-3393 • Fax: 506-433-2443  
sales@easykleen.com  
www.easykleen.com

### ECODRIP by Delta

9125 Comar Dr.  
Walker, LA 70785  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

### ECOFILTER by Delta

9125 Comar Dr.  
Walker, LA 70785  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com



### Ecoflo / Premier Tech Aqua

200 Kelly Rd.  
Quakertown, PA 18951  
800-632-6356  
pta@premiertech.com  
www.ecoflobiofilter.com

### ECOPOD by Delta

9125 Comar Dr.  
Walker, LA 70785  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

### Eliminite, Inc.

PO Box 359  
Belgrade, MT 59714  
888-406-2289 • 406-581-1613  
info@eliminite.com  
www.eliminite.com

### Eljen Corporation

125 McKee St.  
East Hartford, CT 06108  
800-444-1359 • 860-610-0426 • Fax: 860-610-0427  
info@eljen.com  
www.eljen.com  
**Ad on page 29**

### Enviro-Aire by Delta

9125 Comar Dr.  
Walker, LA 70785  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

### ExcaVision, Inc.

6573 Autumn Cove Dr.  
Orlando, FL 32822  
800-344-4788 • 407-721-2416  
kris@ocalainstruments.com  
www.ExcaVision.com  
**Ad on page 51**

### EZflow by Infiltrator

4 Business Park Rd.  
Old Saybrook, CT 06475  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com

### EZset by Infiltrator

4 Business Park Rd.  
Old Saybrook, CT 06475  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com

### EZsnap Riser by Infiltrator

4 Business Park Rd.  
Old Saybrook, CT 06475  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com

## F

### Fuji Clean USA

41 Greenwood Rd., Ste. 2  
Brunswick, ME 04011  
207-406-2927 • Fax: 888-789-1977  
info@fujicleanusa.com  
www.fujicleanusa.com  
**Ad on page 37**

## G

### Geoflow

506 Tamal Plz.  
Corte Madera, CA 94925  
800-828-3388 • 415-927-6000 • Fax: 415-927-0120  
customerservice@geoflow.com  
www.geoflow.com



### Geomatrix Systems, LLC

114 Mill Rock Rd. E  
Old Saybrook, CT 06475  
860-510-0730  
info@geomatrixsystems.com  
www.geomatrixsystems.com



### Gorman-Rupp Company

600 S Airport Rd.  
Mansfield, OH 44903  
419-755-1011 • Fax: 419-755-1251  
grsales@gormanrupp.com  
www.GRpumps.com

## H

### Hoot Systems, LLC

2885 Hwy. 14 E  
Lake Charles, LA 70607  
888-878-4668 • 337-474-2804 • Fax: 337-477-7904  
questions@hootsystems.com  
www.hootsystems.com

### Hydro-Action

PO Box 640  
Plymouth, IN 46563  
800-370-3749 • Fax: 574-935-8470  
pete@hydro-action.com  
www.hydro-action.com

## I

### Infiltrator Septic Tanks

4 Business Park Rd.  
Old Saybrook, CT 06475  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com

### Infiltrator Water Technologies, LLC

4 Business Park Rd.  
Old Saybrook, CT 06475  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com  
**Ad on page 3**

## J

### Jet Inc.

750 Alpha Dr.  
Cleveland, OH 44143  
800-321-6960 • 440-461-2000 • Fax: 440-442-9008  
email@jetincorp.com  
www.jetincorp.com  
**Ad on page 41**

## L

### Liberty Pumps

7000 Apple Tree Ave.  
Bergen, NY 14416  
800-543-2550  
liberty@libertypumps.com  
www.libertypumps.com  
**Ad on page 23**

## N

### National Precast Concrete Assoc.

1320 West City Center Dr., Ste. 200  
Carmel, IN 46032-3816  
800-366-7731 • 317-571-9500 • Fax: 317-571-0041  
npca@precast.org  
www.precast.org/onsite  
**Ad on page 11**



### NEXTGEN SEPTIC

### NextGen Septic, LLC

1776 Mentor Ave.  
Cincinnati, OH 45212  
513-262-9506  
sales@nextgenseptic.com  
www.nextgenseptic.com



**norweco**

Engineering the future of water  
and wastewater treatment

**Norweco, Inc.**

220 Republic St.  
Norwalk, OH 44857  
800-667-9326 • 419-668-4471 • Fax: 419-663-5440  
email@norweco.com  
www.norweco.com

**Ad on page 25**



**Orenco Systems, Inc.**

814 Airway Ave.  
Sutherlin, OR 97479  
800-348-9843 • 541-459-4449  
info@orenco.com  
www.orenco.com



**Polylok, Inc.**

3 Fairfield Blvd.  
Wallingford, CT 06492  
877-765-9565 • Fax: 203-284-8514  
sales@polylok.com  
www.polylok.com

**Ad on page 52**

**Presby Environmental, Inc.**

**Presby Environmental Inc. (PEI)**

143 Airport Rd.  
Whitefield, NH 03598  
800-473-5298  
info@presbyeco.com  
www.presbyeco.com

**Ad on page 5**



**Quick4 by Infiltrator**

4 Business Park Rd.  
Old Saybrook, CT 06475  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com



**Rissy Plastics, LLC**

350 Cedar Ln.  
Torrington, CT 06790  
877-221-4426 • 860-482-1645  
tanxrus@aol.com  
www.flout.net

**Roth North America**

PO Box 245  
Syracuse, NY 13211  
866-943-7256 • 315-579-3326  
sales@roth-usa.com  
www.RothMultitank.com

**Ad on page 45**



**SALCOR**  
UV DISINFECTION

**SALCOR**  
PO Box 1090  
Fallbrook, CA 92088  
760-731-0745 • Fax: 760-731-2405  
jscurver@aol.com  
www.salcor.world

**Ad on page 9**

**Septic Products, Inc.**

1378 Twp. Rd. 743  
Ashland, OH 44805  
419-282-5933 • Fax: 419-282-5943  
sales@septicproducts.com  
www.septicproducts.com

**Ad on page 37**

**ServiceCore**

405 Urban St., Ste. 120  
Lakewood, CO 80228  
833-600-0132 • 844-336-0611  
hello@servicecore.com  
www.servicecore.com

**Ad on page 41**

**Sim/Tech Filter Inc.**

1455 Lexamar Dr.  
Boyne City, MI 49712  
888-999-3290 • 231-582-1020  
sales@gag-simtech.com  
www.simtechfilter.com

**Ad on page 31**

**Simple Solutions Distributing**

6 Jacobs Rd.  
West Milford, NJ 07480  
800-667-8465 • 973-846-7817 • Fax: 973-858-0219  
sales@industrialodorcontrol.com  
www.industrialodorcontrol.com

**Ad on page 51**

**SJE RHOMBUS**

**SJE-Rhombus®**

22650 Cty. Hwy. 6  
Detroit Lakes, MN 56501  
888-342-5753 • 218-847-1317 • Fax: 218-847-4617  
sje@sjeinc.com  
www.sjerrhombus.com

**Ad on page 15**



**T&T TOOLS**

**T&T Tools Inc.**

4470 128th Ave.  
Holland, MI 49424  
800-521-6893 • Fax: 800-521-3260  
sales@mightyprobe.com  
www.mightyprobe.com

**Ad on page 45**

**The Shaddix Company, Inc.**

PO Box 1306  
Cullman, AL 35056  
256-737-0051  
dshaddix@shaddix.us  
www.shaddix.us

**Ad on page 51**

**TUF-TITE, Inc.**

1200 Flex Ct.  
Lake Zurich, IL 60047  
800-382-7009 • 847-550-1011 • Fax: 847-550-8004  
sales@tuf-tite.com  
www.tuf-tite.com

**Ad on page 2**



**Vertiflo Pump Company**

7807 Redsky Dr.  
Cincinnati, OH 45249  
513-530-0888 • Fax: 513-530-0893  
sales@vertiflopump.com  
www.vertiflopump.com



**WATER  
CANNON**

**Water Cannon, Inc. - MWBE**

4300 W Lake Mary Blvd., Units 1010-424  
Lake Mary, FL 32746-2449  
800-333-9274 • 321-800-5763 • Fax: 888-928-9274  
sales@watercannon.com  
www.watercannon.com/catalogrequest.aspx

**Ad on page 19**

**Whitewater by Delta**

9125 Comar Dr.  
Walker, LA 70785  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

**Wholesale Septic Supply**

395 CR 608  
Dayton, TX 77535-4220  
844-660-0901  
info@wholesalesepticssupply.com  
www.wholesalesepticssupply.com

**Ad on page 8**

**Wieser Concrete**

W3716 US Hwy. 10  
Maiden Rock, WI 54750  
800-325-8456 • 715-647-2311  
www.wieserconcrete.com

**Ad on page 49**

## LISTINGS BY CATEGORY

### Advanced Treatment Units

**AK Industries**

Plymouth, IN  
800-370-3749 • Fax: 574-935-8470  
pete@akindustries.com  
www.akindustries.com

**BioMicrobics, Inc.**

Lenexa, KS  
800-753-3278 • 913-422-0707 • Fax: 913-422-0808  
sales@biomicrobics.com  
www.biomicrobics.com

**Ad on page 10**

**delta**  
treatment systems

**Delta Treatment Systems, LLC**

Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

**Ecoflo / Premier Tech Aqua**

Quakertown, PA  
800-632-6356  
pta@premiertech.com  
www.ecoflobiofilter.com

**ECOPD by Delta**

Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com





**Eliminite, Inc.**  
Belgrade, MT  
888-406-2289 • 406-581-1613  
[info@eliminite.com](mailto:info@eliminite.com)  
[www.eliminite.com](http://www.eliminite.com)

**Eljen Corporation**  
East Hartford, CT  
800-444-1359 • 860-610-0426 • Fax: 860-610-0427  
[info@eljen.com](mailto:info@eljen.com)  
[www.eljen.com](http://www.eljen.com)  
**Ad on page 29**

**Enviro-Aire by Delta**  
Walker, LA  
800-219-9183  
[info@deltatreatment.com](mailto:info@deltatreatment.com)  
[www.deltatreatment.com](http://www.deltatreatment.com)



**Fuji Clean USA**  
Brunswick, ME  
207-406-2927 • Fax: 888-789-1977  
[info@fujicleanusa.com](mailto:info@fujicleanusa.com)  
[www.fujicleanusa.com](http://www.fujicleanusa.com)  
**Ad on page 37**



**Hoot Systems, LLC**  
Lake Charles, LA  
888-878-4668 • 337-474-2804 • Fax: 337-477-7904  
[questions@hootsystems.com](mailto:questions@hootsystems.com)  
[www.hootsystems.com](http://www.hootsystems.com)

**Hydro-Action**  
Plymouth, IN  
800-370-3749 • Fax: 574-935-8470  
[pete@hydro-action.com](mailto:pete@hydro-action.com)  
[www.hydro-action.com](http://www.hydro-action.com)

**Infiltrator Water Technologies, LLC**  
Old Saybrook, CT  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
[info@infiltratorwater.com](mailto:info@infiltratorwater.com)  
[www.infiltratorwater.com](http://www.infiltratorwater.com)  
**Ad on page 3**



**Jet Inc.**  
Cleveland, OH  
800-321-6960 • 440-461-2000 • Fax: 440-442-9008  
[email@jetincorp.com](mailto:email@jetincorp.com)  
[www.jetincorp.com](http://www.jetincorp.com)  
**Ad on page 41**



**NEXTGEN SEPTIC**  
**NextGen Septic, LLC**  
Cincinnati, OH  
513-262-9506  
[sales@nextgenseptic.com](mailto:sales@nextgenseptic.com)  
[www.nextgenseptic.com](http://www.nextgenseptic.com)



**Norweco, Inc.**  
Norwalk, OH  
800-667-9326 • 419-668-4471 • Fax: 419-663-5440  
[email@norweco.com](mailto:email@norweco.com)  
[www.norweco.com](http://www.norweco.com)  
**Ad on page 25**



**Orenco Systems, Inc.**  
Sutherlin, OR  
800-348-9843 • 541-459-4449  
[info@orenco.com](mailto:info@orenco.com)  
[www.orenco.com](http://www.orenco.com)



**Presby Environmental, Inc.**  
**Presby Environmental Inc. (PEI)**  
Whitefield, NH  
800-473-5298  
[info@presbyeco.com](mailto:info@presbyeco.com)  
[www.presbyeco.com](http://www.presbyeco.com)  
**Ad on page 5**

#### SALCOR

Fallbrook, CA  
760-731-0745 • Fax: 760-731-2405  
[jscruver@aol.com](mailto:jscruver@aol.com)  
[www.salcor.world](http://www.salcor.world)  
**Ad on page 9**

**Whitewater by Delta**  
Walker, LA  
800-219-9183  
[info@deltatreatment.com](mailto:info@deltatreatment.com)  
[www.deltatreatment.com](http://www.deltatreatment.com)

## Aeration Systems

**Advanced Drainage Systems, Inc.**  
Hilliard, OH  
800-821-6710 • Fax: 614-658-0204  
[info@ads-pipe.com](mailto:info@ads-pipe.com)  
[www.ads-pipe.com](http://www.ads-pipe.com)

**We pause to salute those who have sacrificed to defend our freedoms.**

**eljen**  
CORPORATION

800-444-1359 • [www.eljen.com](http://www.eljen.com)



**AK Industries**  
Plymouth, IN  
800-370-3749 • Fax: 574-935-8470  
pete@akindustries.com  
www.akindustries.com

## **Alita Industries, Inc.**

Baldwin Park, CA  
626-962-2116  
sales@alita.com  
www.alita.com

**Ad on page 45**

## **Arcan Enterprises**

Clarksville, TN  
888-352-7226 • Fax: 931-368-1904  
arcan@charter.net  
www.arcan.com

**Ad on page 51**

## **BioMicrobics, Inc.**

Lenexa, KS  
800-753-3278 • 913-422-0707 • Fax: 913-422-0808  
sales@biomicrobics.com  
www.biomicrobics.com

**Ad on page 10**

## **Delta Treatment Systems, LLC**

Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

## **Enviro-Aire by Delta**

Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

## **Fuji Clean USA**

Brunswick, ME  
207-406-2927 • Fax: 888-789-1977  
info@fujicleanusa.com  
www.fujicleanusa.com

**Ad on page 37**

## **Geomatrix Systems, LLC**

Old Saybrook, CT  
860-510-0730  
info@geomatrixsystems.com  
www.geomatrixsystems.com

## **Hoot Systems, LLC**

Lake Charles, LA  
888-878-4668 • 337-474-2804 • Fax: 337-477-7904  
questions@hootsystems.com  
www.hootsystems.com

## **Hydro-Action**

Plymouth, IN  
800-370-3749 • Fax: 574-935-8470  
pete@hydro-action.com  
www.hydro-action.com



## **Jet Inc.**

Cleveland, OH  
800-321-6960 • 440-461-2000 • Fax: 440-442-9008  
email@jetincorp.com  
www.jetincorp.com

**Ad on page 41**

## **Norweco, Inc.**

Norwalk, OH  
800-667-9326 • 419-668-4471 • Fax: 419-663-5440  
email@norweco.com  
www.norweco.com

**Ad on page 25**

## **Wieser Concrete**

Maiden Rock, WI  
800-325-8456 • 715-647-2311  
www.wieserconcrete.com

**Ad on page 49**

# Aerobic Treatment

## **AK Industries**

Plymouth, IN  
800-370-3749 • Fax: 574-935-8470  
pete@akindustries.com  
www.akindustries.com

## **BioMicrobics, Inc.**

Lenexa, KS  
800-753-3278 • 913-422-0707 • Fax: 913-422-0808  
sales@biomicrobics.com  
www.biomicrobics.com

**Ad on page 10**

## **Delta Treatment Systems, LLC**

Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

## **Hydro-Action**

Plymouth, IN  
800-370-3749 • Fax: 574-935-8470  
pete@hydro-action.com  
www.hydro-action.com

## **NextGen Septic, LLC**

Cincinnati, OH  
513-262-9506  
sales@nextgenseptic.com  
www.nextgenseptic.com

## **Norweco, Inc.**

Norwalk, OH  
800-667-9326 • 419-668-4471 • Fax: 419-663-5440  
email@norweco.com  
www.norweco.com

**Ad on page 25**



## **Presby Environmental, Inc.**

### **Presby Environmental Inc. (PEI)**

Whitefield, NH  
800-473-5298  
info@presbyeeco.com  
www.presbyeeco.com

**Ad on page 5**

# Alarm Systems/ Components

## **Alita Industries, Inc.**

Baldwin Park, CA  
626-962-2116  
sales@alita.com  
www.alita.com

**Ad on page 45**



## **Aquaworx by Infiltrator**

Old Saybrook, CT  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com

## **Delta Treatment Systems, LLC**

Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

## **Eliminite, Inc.**

Belgrade, MT  
888-406-2289 • 406-581-1613  
info@eliminite.com  
www.eliminite.com

## **Infiltrator Water Technologies, LLC**

Old Saybrook, CT  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com

**Ad on page 3**

## **Orenco Systems, Inc.**

Sutherlin, OR  
800-348-9843 • 541-459-4449  
info@orenco.com  
www.orenco.com

## **Polylok, Inc.**

Wallingford, CT  
877-765-9565 • Fax: 203-284-8514  
sales@polylok.com  
www.polylok.com

**Ad on page 52**

## **Septic Products, Inc.**

Ashland, OH  
419-282-5933 • Fax: 419-282-5943  
sales@septicproducts.com  
www.septicproducts.com

**Ad on page 37**



## **SJE RHOMBUS**

### **SJE-Rhombus®**

Detroit Lakes, MN  
888-342-5753 • 218-847-1317 • Fax: 218-847-4617  
sje@sjeinc.com  
www.sjerrhombus.com

**Ad on page 15**

# Association

## **National Precast Concrete Assoc.**

Carmel, IN  
800-366-7731 • 317-571-9500 • Fax: 317-571-0041  
npca@precast.org  
www.precast.org/onsite

**Ad on page 11**

# Bacteria - Septic

## **BioMicrobics, Inc.**

Lenexa, KS  
800-753-3278 • 913-422-0707 • Fax: 913-422-0808  
sales@biomicrobics.com  
www.biomicrobics.com

**Ad on page 10**

## **Simple Solutions Distributing**

West Milford, NJ  
800-667-8465 • 973-846-7817 • Fax: 973-858-0219  
sales@industrialodorcontrol.com  
www.industrialodorcontrol.com

**Ad on page 51**

# Bacteria - Wastewater

## **BioMicrobics, Inc.**

Lenexa, KS  
800-753-3278 • 913-422-0707 • Fax: 913-422-0808  
sales@biomicrobics.com  
www.biomicrobics.com

**Ad on page 10**

## **Jet Inc.**

Cleveland, OH  
800-321-6960 • 440-461-2000 • Fax: 440-442-9008  
email@jetincorp.com  
www.jetincorp.com

**Ad on page 41**

## **Simple Solutions Distributing**

West Milford, NJ  
800-667-8465 • 973-846-7817 • Fax: 973-858-0219  
sales@industrialodorcontrol.com  
www.industrialodorcontrol.com

**Ad on page 51**

# Chemicals - Septic

## **Arcan Enterprises**

Clarksville, TN  
888-352-7226 • Fax: 931-368-1904  
arcan@charter.net  
www.arcan.com

**Ad on page 51**

# Chemicals - Wastewater Treatment



## **Jet Inc.**

Cleveland, OH  
800-321-6960 • 440-461-2000 • Fax: 440-442-9008  
email@jetincorp.com  
www.jetincorp.com

**Ad on page 41**

## **Norweco, Inc.**

Norwalk, OH  
800-667-9326 • 419-668-4471 • Fax: 419-663-5440  
email@norweco.com  
www.norweco.com

**Ad on page 25**

# Commercial Onsite Treatment Systems

## **BioMicrobics, Inc.**

Lenexa, KS  
800-753-3278 • 913-422-0707 • Fax: 913-422-0808  
sales@biomicrobics.com  
www.biomicrobics.com

**Ad on page 10**



**Delta Treatment Systems, LLC**  
Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

**Ecoflo / Premier Tech Aqua**  
Quakertown, PA  
800-632-6356  
pta@premiertech.com  
www.ecoflobiofilter.com

**ECOPD by Delta**  
Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

**Eliminite®**  
MetaRocks

**Eliminite, Inc.**  
Belgrade, MT  
888-406-2289 • 406-581-1613  
info@eliminite.com  
www.eliminite.com

**Fuji Clean USA**  
Brunswick, ME  
207-406-2927 • Fax: 888-789-1977  
info@fujicleanusa.com  
www.fujicleanusa.com  
**Ad on page 37**

**Geoflow**  
Corte Madera, CA  
800-828-3388 • 415-927-6000 • Fax: 415-927-0120  
customerservice@geoflow.com  
www.geoflow.com



**Hoot Systems, LLC**  
Lake Charles, LA  
888-878-4668 • 337-474-2804 • Fax: 337-477-7904  
questions@hootsystems.com  
www.hootsystems.com



**Jet Inc.**  
Cleveland, OH  
800-321-6960 • 440-461-2000 • Fax: 440-442-9008  
email@jetincorp.com  
www.jetincorp.com  
**Ad on page 41**

**Norweco, Inc.**  
Norwalk, OH  
800-667-9326 • 419-668-4471 • Fax: 419-663-5440  
email@norweco.com  
www.norweco.com  
**Ad on page 25**

**Orenco Systems, Inc.**  
Sutherlin, OR  
800-348-9843 • 541-459-4449  
info@orenco.com  
www.orenco.com



**Presby Environmental, Inc.**  
**Presby Environmental Inc. (PEI)**  
Whitefield, NH  
800-473-5298  
info@presbyeco.com  
www.presbyeco.com  
**Ad on page 5**

**SALCOR**  
Fallbrook, CA  
760-731-0745 • Fax: 760-731-2405  
jscurver@aol.com  
www.salcor.world  
**Ad on page 9**

## Consulting/Engineering

**Eliminite, Inc.**  
Belgrade, MT  
888-406-2289 • 406-581-1613  
info@eliminite.com  
www.eliminite.com

## Decorative Landscaping/ Rock

**Polylok, Inc.**  
Wallingford, CT  
877-765-9565 • Fax: 203-284-8514  
sales@polylok.com  
www.polylok.com  
**Ad on page 52**

## Disinfection Equipment/ Systems

**BioMicrobics, Inc.**  
Lenexa, KS  
800-753-3278 • 913-422-0707 • Fax: 913-422-0808  
sales@biomicrobics.com  
www.biomicrobics.com  
**Ad on page 10**

**Delta Treatment Systems, LLC**  
Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

**Ecoflo / Premier Tech Aqua**  
Quakertown, PA  
800-632-6356  
pta@premiertech.com  
www.ecoflobiofilter.com

**Norweco, Inc.**  
Norwalk, OH  
800-667-9326 • 419-668-4471 • Fax: 419-663-5440  
email@norweco.com  
www.norweco.com  
**Ad on page 25**



## The Last Line of Defense for Pressurized Distribution Systems

### NO VAULT PUMP FILTER

- » 41% open area (139 square inches of open area on the 6" x 18" screen model)
- » Fits most turbine pumps (also known as deep well pumps)
- » Adds only 1/4" of height to pump making it easy to retrofit to existing systems
- » Has 3" sludge shield at the bottom of the filter
- » Disassembles for thorough cleaning if needed
- » Easy to clean surface
- » Made of PVC plastic so will not corrode
- » Self adjusting seal
- » Very light in weight so it does not make pump insertion or removal difficult
- » Screen available from 18" to 42" long
- » Also available with 316L stainless steel screen



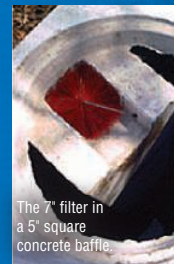
Can be used in a manifold to handle almost any flow-rate  
US Patent# 5,885,452  
CAN Patent# 2,237,751

### THE STF-100 SERIES PRESSURE FILTER WILL:

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

### GRAVITY FLOW BRISTLE FILTERS FOR RESIDENTIAL OR COMMERCIAL SYSTEMS, SEPTIC TANKS, ONSITE SYSTEMS OR EVEN YOUR POND!

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



Sizes:  
4" yellow  
6" white  
7" red  
8" blue  
The 4" filter in a 4" Tee. Patent# 6,811,692



### ORIFICE SHIELDS

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

### FLOAT TREE ACCESSORIES

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



**Check Out Our Other Quality Solutions!**  
Risers, Security Nets, Clean-Out Sweeps, etc.

[gag-simtech.com](http://gag-simtech.com)  
888-999-3290







**SALCOR**  
Fallbrook, CA  
760-731-0745 • Fax: 760-731-2405  
jsruver@aol.com  
www.salcor.world  
**Ad on page 9**

## Drainfield Components



**Advanced Drainage Systems, Inc.**  
Hilliard, OH  
800-821-6710 • Fax: 614-658-0204  
info@ads-pipe.com  
www.ads-pipe.com

**Arcan Enterprises**  
Clarksville, TN  
888-352-7226 • Fax: 931-368-1904  
arcan@charter.net  
www.arcan.com

**Ad on page 51**



**ATL by Infiltrator**  
Old Saybrook, CT  
800-221-4436 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com

**Eljen Corporation**  
East Hartford, CT  
800-444-1359 • Fax: 860-610-0426 • Fax: 860-610-0427  
info@eljen.com  
www.eljen.com  
**Ad on page 29**



**EZflow by Infiltrator**  
Old Saybrook, CT  
800-221-4436 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com

**Geoflow**  
Corte Madera, CA  
800-828-3388 • Fax: 415-927-6000 • Fax: 415-927-0120  
customerservice@geoflow.com  
www.geoflow.com

**Geomatrix Systems, LLC**  
Old Saybrook, CT  
860-510-0730  
info@geomatrixsystems.com  
www.geomatrixsystems.com

**Infiltrator Water Technologies, LLC**  
Old Saybrook, CT  
800-221-4436 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com  
**Ad on page 3**

**Polylok, Inc.**  
Wallingford, CT  
877-765-9565 • Fax: 203-284-8514  
sales@polylok.com  
www.polylok.com  
**Ad on page 52**



**Presby Environmental, Inc.**  
**Presby Environmental Inc. (PEI)**  
Whitefield, NH  
800-473-5298  
info@presbyeco.com  
www.presbyeco.com  
**Ad on page 5**



**Quick4 by Infiltrator**  
Old Saybrook, CT  
800-221-4436 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com

**Rissy Plastics, LLC**  
Torrington, CT  
877-221-4426 • Fax: 860-482-1645  
tanxrus@aol.com  
www.flout.net

**Sim/Tech Filter Inc.**  
Boyne City, MI  
888-999-3290 • Fax: 231-582-1020  
sales@gag-simtech.com  
www.simtechfilter.com  
**Ad on page 31**

**TUF-TITE, Inc.**  
Lake Zurich, IL  
800-382-7009 • Fax: 847-550-8004  
sales@tuf-tite.com  
www.tuf-tite.com  
**Ad on page 2**

## Drip Systems

**Delta Treatment Systems, LLC**  
Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

**ECODRIP by Delta**  
Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

**Geoflow**  
Corte Madera, CA  
800-828-3388 • Fax: 415-927-6000 • Fax: 415-927-0120  
customerservice@geoflow.com  
www.geoflow.com

**Jet Inc.**  
Cleveland, OH  
800-321-6960 • Fax: 440-461-2000 • Fax: 440-442-9008  
email@jetincorp.com  
www.jetincorp.com  
**Ad on page 41**

**Norweco, Inc.**  
Norwalk, OH  
800-667-9326 • Fax: 419-668-4471 • Fax: 419-663-5440  
email@norweco.com  
www.norweco.com  
**Ad on page 25**

## Education

**National Precast Concrete Assoc.**  
Carmel, IN  
800-366-7731 • Fax: 317-571-9500 • Fax: 317-571-0041  
npca@precast.org  
www.precast.org/onsite  
**Ad on page 11**

## Excavating Equipment



**ExcaVision, Inc.**  
Orlando, FL  
800-344-4788 • Fax: 407-721-2416  
kris@ocalainstruments.com  
www.ExcaVision.com  
**Ad on page 51**

## Filter Media

**Advanced Drainage Systems, Inc.**  
Hilliard, OH  
800-821-6710 • Fax: 614-658-0204  
info@ads-pipe.com  
www.ads-pipe.com

**Ecoflo / Premier Tech Aqua**  
Quakertown, PA  
800-632-6356  
pta@premiertech.com  
www.ecoflobiofilter.com



**Presby Environmental, Inc.**  
**Presby Environmental Inc. (PEI)**  
Whitefield, NH  
800-473-5298  
info@presbyeco.com  
www.presbyeco.com  
**Ad on page 5**

## Filters - Onsite/ Wastewater

**BioMicrobics, Inc.**  
Lenexa, KS  
800-753-3278 • Fax: 913-422-0707 • Fax: 913-422-0808  
sales@biomicrobics.com  
www.biomicrobics.com  
**Ad on page 10**

**ECOFILTER by Delta**  
Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

**Ecoflo / Premier Tech Aqua**  
Quakertown, PA  
800-632-6356  
pta@premiertech.com  
www.ecoflobiofilter.com

**Eliminite, Inc.**  
Belgrade, MT  
888-406-2289 • Fax: 406-581-1613  
info@eliminite.com  
www.eliminite.com

**Geoflow**  
Corte Madera, CA  
800-828-3388 • Fax: 415-927-6000 • Fax: 415-927-0120  
customerservice@geoflow.com  
www.geoflow.com

**Jet Inc.**  
Cleveland, OH  
800-321-6960 • Fax: 440-461-2000 • Fax: 440-442-9008  
email@jetincorp.com  
www.jetincorp.com  
**Ad on page 41**

**Norweco, Inc.**  
Norwalk, OH  
800-667-9326 • Fax: 419-668-4471 • Fax: 419-663-5440  
email@norweco.com  
www.norweco.com  
**Ad on page 25**



**Polylok, Inc.**  
Wallingford, CT  
877-765-9565 • Fax: 203-284-8514  
sales@polylok.com  
www.polylok.com  
**Ad on page 52**

**Sim/Tech Filter Inc.**  
Boyne City, MI  
888-999-3290 • Fax: 231-582-1020  
sales@gag-simtech.com  
www.simtechfilter.com  
**Ad on page 31**

**TUF-TITE, Inc.**  
Lake Zurich, IL  
800-382-7009 • Fax: 847-550-1011 • Fax: 847-550-8004  
sales@tuf-tite.com  
www.tuf-tite.com  
**Ad on page 2**

**Wieser Concrete**  
Maiden Rock, WI  
800-325-8456 • Fax: 715-647-2311  
www.wieserconcrete.com  
**Ad on page 49**

## Fleet Management

**ServiceCore**  
Lakewood, CO  
833-600-0132 • Fax: 844-336-0611  
hello@servicecore.com  
www.servicecore.com  
**Ad on page 41**

## Gravity Dosing Systems

**Rissy Plastics, LLC**  
Torrington, CT  
877-221-4426 • Fax: 860-482-1645  
tanxrus@aol.com  
www.flout.net



## Grease Interceptors

**Advanced Drainage Systems, Inc.**  
Hilliard, OH  
800-821-6710 • Fax: 614-658-0204  
[info@ads-pipe.com](mailto:info@ads-pipe.com)  
[www.ads-pipe.com](http://www.ads-pipe.com)

**AK Industries**  
Plymouth, IN  
800-370-3749 • Fax: 574-935-8470  
[pete@akindustries.com](mailto:pete@akindustries.com)  
[www.akindustries.com](http://www.akindustries.com)

**BioMicrobics, Inc.**  
Lenexa, KS  
800-753-3278 • 913-422-0707 • Fax: 913-422-0808  
[sales@biomicrobics.com](mailto:sales@biomicrobics.com)  
[www.biomicrobics.com](http://www.biomicrobics.com)  
**Ad on page 10**

**Crest Precast, Inc.**  
LaCrescent, MN  
800-658-9045 • 507-895-2342 • Fax: 507-895-2377  
[info@crestprecastconcrete.com](mailto:info@crestprecastconcrete.com)  
[www.crestprecastconcrete.com](http://www.crestprecastconcrete.com)  
**Ad on page 43**

**Hydro-Action**  
Plymouth, IN  
800-370-3749 • Fax: 574-935-8470  
[pete@hydro-action.com](mailto:pete@hydro-action.com)  
[www.hydro-action.com](http://www.hydro-action.com)

**National Precast Concrete Assoc.**  
Carmel, IN  
800-366-7731 • 317-571-9500 • Fax: 317-571-0041  
[npc@precast.org](mailto:npc@precast.org)  
[www.precast.org/onsite](http://www.precast.org/onsite)  
**Ad on page 11**

**Wieser Concrete**  
Maiden Rock, WI  
800-325-8456 • 715-647-2311  
[www.wieserconcrete.com](http://www.wieserconcrete.com)  
**Ad on page 49**

## Hand Tools



**T&T Tools Inc.**  
Holland, MI  
800-521-6893 • Fax: 800-521-3260  
[sales@mightyprobe.com](mailto:sales@mightyprobe.com)  
[www.mightyprobe.com](http://www.mightyprobe.com)  
**Ad on page 45**

## Jetters - Portable



**Cam Spray**  
Iowa Falls, IA  
800-648-5011 • 641-648-5011 • Fax: 641-648-5013  
[sales@camspray.com](mailto:sales@camspray.com)  
[www.camspray.com](http://www.camspray.com)  
**Ad on page 10**

**Easy Klean Pressure Systems Ltd.**  
Sussex Corner, NB  
Canada  
800-315-5533 • 503-433-3393 • Fax: 506-433-2443  
[sales@easyklean.com](mailto:sales@easyklean.com)  
[www.easyklean.com](http://www.easyklean.com)

**Water Cannon, Inc. - MWBE**  
Lake Mary, FL  
800-333-9274 • 321-800-5763 • Fax: 888-928-9274  
[sales@watercannon.com](mailto:sales@watercannon.com)  
[www.watercannon.com/catalogrequest.aspx](http://www.watercannon.com/catalogrequest.aspx)  
**Ad on page 19**

## Jetters - Truck & Trailer



**Cam Spray**  
Iowa Falls, IA  
800-648-5011 • 641-648-5011 • Fax: 641-648-5013  
[sales@camspray.com](mailto:sales@camspray.com)  
[www.camspray.com](http://www.camspray.com)  
**Ad on page 10**

**Easy Klean Pressure Systems Ltd.**  
Sussex Corner, NB  
Canada  
800-315-5533 • 503-433-3393 • Fax: 506-433-2443  
[sales@easyklean.com](mailto:sales@easyklean.com)  
[www.easyklean.com](http://www.easyklean.com)

**Water Cannon, Inc. - MWBE**  
Lake Mary, FL  
800-333-9274 • 321-800-5763 • Fax: 888-928-9274  
[sales@watercannon.com](mailto:sales@watercannon.com)  
[www.watercannon.com/catalogrequest.aspx](http://www.watercannon.com/catalogrequest.aspx)  
**Ad on page 19**



# Ace Roto-Mold

A DIVISION OF DEN HARTOG INDUSTRIES, INC.



**Cisterns and  
Low Profile Cisterns**



**Septic Tanks and  
Low Profile Septic Tanks**  
SHOWN WITH OPTIONAL  
ACCESSORIES/KITS



**Pump Tanks**  
MANUFACTURED FROM  
RECLAIMED POLYETHYLENE

**4010 Hospers Drive South • Hospers, IA 51238 • 712-752-8432**  
**"Always at Your Service" • [www.denhartogindustries.com](http://www.denhartogindustries.com)**





**Den Hartog**  
INDUSTRIES, INC.



## Laser Equipment



**ExcaVision, Inc.**  
Orlando, FL  
800-344-4788 • 407-721-2416  
kris@oclainstruments.com  
www.ExcaVision.com  
**Ad on page 51**

## Liquid Level Indicator

**Delta Treatment Systems, LLC**  
Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

**ECOFILTER by Delta**  
Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

## Machine Control



**ExcaVision, Inc.**  
Orlando, FL  
800-344-4788 • 407-721-2416  
kris@oclainstruments.com  
www.ExcaVision.com  
**Ad on page 51**

## Nitrogen Reduction Systems

**BioMicrobics, Inc.**  
Lenexa, KS  
800-753-3278 • 913-422-0707 • Fax: 913-422-0808  
sales@biomicrobics.com  
www.biomicrobics.com  
**Ad on page 10**

**Delta Treatment Systems, LLC**  
Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

**Ecoflo / Premier Tech Aqua**  
Quakertown, PA  
800-632-6356  
pta@premiertech.com  
www.ecoflobiofilter.com

**ECOPD by Delta**  
Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com



**Eliminite, Inc.**  
Belgrade, MT  
888-406-2289 • 406-581-1613  
info@eliminite.com  
www.eliminite.com

**Geomatrix Systems, LLC**  
Old Saybrook, CT  
860-510-0730  
info@geomatrixsystems.com  
www.geomatrixsystems.com



**Hoot Systems, LLC**  
Lake Charles, LA  
888-878-4668 • 337-474-2804 • Fax: 337-477-7904  
questions@hootsystems.com  
www.hootsystems.com

**Jet Inc.**  
Cleveland, OH  
800-321-6960 • 440-461-2000 • Fax: 440-442-9008  
email@jetincorp.com  
www.jetincorp.com  
**Ad on page 41**

**NextGen Septic, LLC**  
Cincinnati, OH  
513-262-9506  
sales@nextgenseptic.com  
www.nextgenseptic.com



Engineering the future of water and wastewater treatment

**Norweco, Inc.**  
Norwalk, OH  
800-667-9326 • 419-668-4471 • Fax: 419-663-5440  
email@norweco.com  
www.norweco.com  
**Ad on page 25**

**Orenco Systems, Inc.**  
Sutherlin, OR  
800-348-9843 • 541-459-4449  
info@orenco.com  
www.orenco.com

## Odor Control Products/ Equipment

**Polylok, Inc.**  
Wallingford, CT  
877-765-9565 • Fax: 203-284-8514  
sales@polylok.com  
www.polylok.com  
**Ad on page 52**

**Simple Solutions Distributing**  
West Milford, NJ  
800-667-8465 • 973-846-7817 • Fax: 973-858-0219  
sales@industrialodorcontrol.com  
www.industrialodorcontrol.com  
**Ad on page 51**

**Wholesale Septic Supply**  
Dayton, TX  
844-660-0901  
info@wholesalesepticssupply.com  
www.wholesalesepticssupply.com  
**Ad on page 8**

## Onsite Septic Systems

  
**Advanced Drainage Systems, Inc.**  
Hilliard, OH  
800-821-6710 • Fax: 614-658-0204  
info@ads-pipe.com  
www.ads-pipe.com

  
**Aquaworx by Infiltrator**  
Old Saybrook, CT  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com

**Arcan Enterprises**  
Clarksville, TN  
888-352-7226 • Fax: 931-368-1904  
arcan@charter.net  
www.arcan.com  
**Ad on page 51**

**BioMicrobics, Inc.**  
Lenexa, KS  
800-753-3278 • 913-422-0707 • Fax: 913-422-0808  
sales@biomicrobics.com  
www.biomicrobics.com  
**Ad on page 10**

**Crest Precast, Inc.**  
LaCrescent, MN  
800-658-9045 • 507-895-2342 • Fax: 507-895-2377  
info@crestprecastconcrete.com  
www.crestprecastconcrete.com  
**Ad on page 43**

**Delta Treatment Systems, LLC**  
Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

**Ecoflo / Premier Tech Aqua**  
Quakertown, PA  
800-632-6356  
pta@premiertech.com  
www.ecoflobiofilter.com



**Eliminite, Inc.**  
Belgrade, MT  
888-406-2289 • 406-581-1613  
info@eliminite.com  
www.eliminite.com



**Eljen Corporation**  
East Hartford, CT  
800-444-1359 • 860-610-0426 • Fax: 860-610-0427  
info@eljen.com  
www.eljen.com

**Ad on page 29**  
**EZflow by Infiltrator**  
Old Saybrook, CT  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com

**Geomatrix Systems, LLC**  
Old Saybrook, CT  
860-510-0730  
info@geomatrixsystems.com  
www.geomatrixsystems.com

**Hoot Systems, LLC**  
Lake Charles, LA  
888-878-4668 • 337-474-2804 • Fax: 337-477-7904  
questions@hootsystems.com  
www.hootsystems.com



**INFILTRATOR**  
water technologies  
**Infiltrator Water Technologies, LLC**  
Old Saybrook, CT  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com  
**Ad on page 3**

**Jet Inc.**  
Cleveland, OH  
800-321-6960 • 440-461-2000 • Fax: 440-442-9008  
email@jetincorp.com  
www.jetincorp.com  
**Ad on page 41**

**National Precast Concrete Assoc.**  
Carmel, IN  
800-366-7731 • 317-571-9500 • Fax: 317-571-0041  
npca@precast.org  
www.precast.org/onsite  
**Ad on page 11**

**NextGen Septic, LLC**  
Cincinnati, OH  
513-262-9506  
sales@nextgenseptic.com  
www.nextgenseptic.com

**Norweco, Inc.**  
Norwalk, OH  
800-667-9326 • 419-668-4471 • Fax: 419-663-5440  
email@norweco.com  
www.norweco.com  
**Ad on page 25**

**Orenco Systems, Inc.**  
Sutherlin, OR  
800-348-9843 • 541-459-4449  
info@orenco.com  
www.orenco.com





**Presby Environmental, Inc.**

**Presby Environmental Inc. (PEI)**

Whitefield, NH  
800-473-5298  
info@presbyeeco.com  
www.presbyeeco.com

**Ad on page 5**

**Quick4**

**Quick4 by Infiltrator**

Old Saybrook, CT  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com

**SALCOR**

Fallbrook, CA  
760-731-0745 • Fax: 760-731-2405  
jsruver@aol.com  
www.salcor.world

**Ad on page 9**

**Sim/Tech Filter Inc.**

Boyne City, MI  
888-999-3290 • 231-582-1020  
sales@gag-simtech.com  
www.simtechfilter.com

**Ad on page 31**



**SJE RHOMBUS**

**SJE-Rhombus®**

Detroit Lakes, MN  
888-342-5753 • 218-847-1317 • Fax: 218-847-4617  
sje@sjeinc.com  
www.sjerhombus.com

**Ad on page 15**

**Wieser Concrete**

Maiden Rock, WI  
800-325-8456 • 715-647-2311  
www.wieserconcrete.com

**Ad on page 49**

## Peat Systems

**Ecoflo / Premier Tech Aqua**

Quakertown, PA  
800-632-6356  
pta@premiertech.com  
www.ecoflobiofilter.com

## Pipe - Concrete

**National Precast Concrete Assoc.**

Carmel, IN  
800-366-7731 • 317-571-9500 • Fax: 317-571-0041  
npcca@precast.org  
www.precast.org/onsite

**Ad on page 11**

## Pressure Washers and Sprayers



**Cam Spray**

Iowa Falls, IA  
800-648-5011 • 641-648-5011 • Fax: 641-648-5013  
sales@camspray.com  
www.camspray.com

**Ad on page 10**

**EASY-KLEEN**

**PRESSURE SYSTEMS LTD.**  
MANUFACTURER OF HIGH PRESSURE CLEANING EQUIPMENT  
Easy Klean Pressure Systems Ltd.

Sussex Corner, NB  
Canada  
800-315-5533 • 503-433-3393 • Fax: 506-433-2443  
sales@easyklean.com  
www.easyklean.com

**Water Cannon, Inc. - MWBE**

Lake Mary, FL  
800-333-9274 • 321-800-5763 • Fax: 888-928-9274  
sales@watercannon.com  
www.watercannon.com/catalogrequest.aspx

**Ad on page 19**

## Pump Control Panels

**Delta Treatment Systems, LLC**

Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

**ECODRIP by Delta**

Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

**ECOFILTER by Delta**

Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

**Gorman-Rupp Company**

Mansfield, OH  
419-755-1011 • Fax: 419-755-1251  
grsales@gormanrupp.com  
www.GRpumps.com

**Jet Inc.**

Cleveland, OH  
800-321-6960 • 440-461-2000 • Fax: 440-442-9008  
email@jetincorp.com  
www.jetincorp.com

**Ad on page 41**

**Liberty Pumps**

Bergen, NY  
800-543-2550  
liberty@libertypumps.com  
www.libertypumps.com

**Ad on page 23**

- Residential
- Community
- Commercial



- ✓ **Bio-Microbics FAST® System**
- ✓ **SeptiTech® STAAR® Trickling**
- ✓ **BioBarrier® MBR & HSMBR®**
- ✓ **RollsAIR® XL & XXL System**
- ✓ **SaniTEE® Screening Devices**
- ✓ **Recover® Greywater System**
- ✓ **d-Rain Joint™ Rainwater Filter**
- ✓ **BioSTORM® Treatment System**

- black & greywater treatment
- drainfield limits/direct discharge
- large scale & specialty application
- remediation or retrofit
- environmentally-sensitive
- highly stable denitrification
- greywater treatment/recycling
- restaurants & commercial kitchens
- distance to groundwater sources
- drip irrigation or other reuse
- waterfront properties
- small / difficult lots

**Simple, Low Cost, Robust  
Water, Wastewater, Greywater &  
Stormwater Treatment Systems**

**BIO MICROBICS®**

BETTER WATER. BETTER WORLD.®

[www.biomicrobics.com](http://www.biomicrobics.com)  
**800.753.FAST (3278)**  
[sales@biomicrobics.com](mailto:sales@biomicrobics.com)

© 2018 Bio-Microbics Inc.



**Orenco Systems, Inc.**  
Sutherlin, OR  
800-348-9843 • 541-459-4449  
info@orenco.com  
www.orenco.com

**Polylok, Inc.**  
Wallingford, CT  
877-765-9565 • Fax: 203-284-8514  
sales@polylok.com  
www.polylok.com  
**Ad on page 52**

**Septic Products, Inc.**  
Ashland, OH  
419-282-5933 • Fax: 419-282-5943  
sales@septicproducts.com  
www.septicproducts.com  
**Ad on page 37**



**SJE-Rhombus®**  
Detroit Lakes, MN  
888-342-5753 • 218-847-1317 • Fax: 218-847-4617  
sje@sjeinc.com  
www.sjerhombus.com  
**Ad on page 15**

## Pump Parts/Components

**Ashland Pump**  
Ashland, OH  
855-281-6830  
www.ashlandpump.com  
**Ad on page 7**

**Gorman-Rupp Company**  
Mansfield, OH  
419-755-1011 • Fax: 419-755-1251  
grsales@gormanrupp.com  
www.GRpumps.com

**Liberty Pumps**  
Bergen, NY  
800-543-2550  
liberty@libertypumps.com  
www.libertypumps.com  
**Ad on page 23**



**SJE-Rhombus®**  
Detroit Lakes, MN  
888-342-5753 • 218-847-1317 • Fax: 218-847-4617  
sje@sjeinc.com  
www.sjerhombus.com  
**Ad on page 15**

**Wholesale Septic Supply**  
Dayton, TX  
844-660-0901  
info@wholesalesepticssupply.com  
www.wholesalesepticssupply.com  
**Ad on page 8**

## Pumps - Aeration

**Alita Industries, Inc.**  
Baldwin Park, CA  
626-962-2116  
sales@alita.com  
www.alita.com  
**Ad on page 45**

**Geomatrix Systems, LLC**  
Old Saybrook, CT  
860-510-0730  
info@geomatrixsystems.com  
www.geomatrixsystems.com

**Gorman-Rupp Company**  
Mansfield, OH  
419-755-1011 • Fax: 419-755-1251  
grsales@gormanrupp.com  
www.GRpumps.com

**Jet Inc.**  
Cleveland, OH  
800-321-6960 • 440-461-2000 • Fax: 440-442-9008  
email@jetincorp.com  
www.jetincorp.com  
**Ad on page 41**

**Polylok, Inc.**  
Wallingford, CT  
877-765-9565 • Fax: 203-284-8514  
sales@polylok.com  
www.polylok.com  
**Ad on page 52**

**Wholesale Septic Supply**  
Dayton, TX  
844-660-0901  
info@wholesalesepticssupply.com  
www.wholesalesepticssupply.com  
**Ad on page 8**

## Pumps - Effluent/ Sewage/Sump

**Alita Industries, Inc.**  
Baldwin Park, CA  
626-962-2116  
sales@alita.com  
www.alita.com  
**Ad on page 45**

**Aquaworx by Infiltrator**  
Old Saybrook, CT  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com

**Ashland Pump**  
Ashland, OH  
855-281-6830  
www.ashlandpump.com  
**Ad on page 7**

**Delta Treatment Systems, LLC**  
Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

**ECOFILTER by Delta**  
Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

**Gorman-Rupp Company**  
Mansfield, OH  
419-755-1011 • Fax: 419-755-1251  
grsales@gormanrupp.com  
www.GRpumps.com

**Jet Inc.**  
Cleveland, OH  
800-321-6960 • 440-461-2000 • Fax: 440-442-9008  
email@jetincorp.com  
www.jetincorp.com  
**Ad on page 41**

**Liberty Pumps**  
Bergen, NY  
800-543-2550  
liberty@libertypumps.com  
www.libertypumps.com  
**Ad on page 23**

**Orenco Systems, Inc.**  
Sutherlin, OR  
800-348-9843 • 541-459-4449  
info@orenco.com  
www.orenco.com

**Polylok, Inc.**  
Wallingford, CT  
877-765-9565 • Fax: 203-284-8514  
sales@polylok.com  
www.polylok.com  
**Ad on page 52**

**Vertiflo Pump Company**  
Cincinnati, OH  
513-530-0888 • Fax: 513-530-0893  
sales@vertiflopump.com  
www.vertiflopump.com

**Wholesale Septic Supply**  
Dayton, TX  
844-660-0901  
info@wholesalesepticssupply.com  
www.wholesalesepticssupply.com  
**Ad on page 8**

## Pumps - Grinder

**Ashland Pump**  
Ashland, OH  
855-281-6830  
www.ashlandpump.com  
**Ad on page 7**

**Delta Treatment Systems, LLC**  
Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

**Gorman-Rupp Company**  
Mansfield, OH  
419-755-1011 • Fax: 419-755-1251  
grsales@gormanrupp.com  
www.GRpumps.com



**Liberty Pumps**  
Bergen, NY  
800-543-2550  
liberty@libertypumps.com  
www.libertypumps.com  
**Ad on page 23**

## Pumps - Solids/Sludge

**Ashland Pump**  
Ashland, OH  
855-281-6830  
www.ashlandpump.com  
**Ad on page 7**

**Gorman-Rupp Company**  
Mansfield, OH  
419-755-1011 • Fax: 419-755-1251  
grsales@gormanrupp.com  
www.GRpumps.com

**Liberty Pumps**  
Bergen, NY  
800-543-2550  
liberty@libertypumps.com  
www.libertypumps.com  
**Ad on page 23**

**Vertiflo Pump Company**  
Cincinnati, OH  
513-530-0888 • Fax: 513-530-0893  
sales@vertiflopump.com  
www.vertiflopump.com

**Water Cannon, Inc. - MWBE**  
Lake Mary, FL  
800-333-9274 • 321-800-5763 • Fax: 888-928-9274  
sales@watercannon.com  
www.watercannon.com/catalogrequest.aspx  
**Ad on page 19**

## Pumps - Submersible

**Alita Industries, Inc.**  
Baldwin Park, CA  
626-962-2116  
sales@alita.com  
www.alita.com  
**Ad on page 45**

**Ashland Pump**  
Ashland, OH  
855-281-6830  
www.ashlandpump.com  
**Ad on page 7**

**Delta Treatment Systems, LLC**  
Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

**ECODRIP by Delta**  
Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

**ECOFILTER by Delta**  
Walker, LA  
800-219-9183  
info@deltatreatment.com  
www.deltatreatment.com

**Gorman-Rupp Company**  
Mansfield, OH  
419-755-1011 • Fax: 419-755-1251  
grsales@gormanrupp.com  
www.GRpumps.com



#### Jet Inc.

Cleveland, OH  
800-321-6960 • 440-461-2000 • Fax: 440-442-9008  
email@jetincorp.com  
www.jetincorp.com  
**Ad on page 41**

#### Liberty Pumps

Bergen, NY  
800-543-2550  
liberty@libertypumps.com  
www.libertypumps.com  
**Ad on page 23**

#### Wholesale Septic Supply

Dayton, TX  
844-660-0901  
info@wholesalesepticssupply.com  
www.wholesalesepticssupply.com  
**Ad on page 8**

## Pumps - Vertical/ Lift Station

#### Gorman-Rupp Company

Mansfield, OH  
419-755-1011 • Fax: 419-755-1251  
grsales@gormanrupp.com  
www.GRpumps.com

#### Jet Inc.

Cleveland, OH  
800-321-6960 • 440-461-2000 • Fax: 440-442-9008  
email@jetincorp.com  
www.jetincorp.com  
**Ad on page 41**

#### Liberty Pumps

Bergen, NY  
800-543-2550  
liberty@libertypumps.com  
www.libertypumps.com  
**Ad on page 23**

#### Vertiflo Pump Company

Cincinnati, OH  
513-530-0888 • Fax: 513-530-0893  
sales@vertiflopump.com  
www.vertiflopump.com

## Pumps - Washdown

#### Gorman-Rupp Company

Mansfield, OH  
419-755-1011 • Fax: 419-755-1251  
grsales@gormanrupp.com  
www.GRpumps.com

#### Water Cannon, Inc. - MWBE

Lake Mary, FL  
800-333-9274 • 321-800-5763 • Fax: 888-928-9274  
sales@watercannon.com  
www.watercannon.com/catalogrequest.aspx  
**Ad on page 19**

## Risers & Lids - Septic

#### AK Industries

Plymouth, IN  
800-370-3749 • Fax: 574-935-8470  
pete@akindustries.com  
www.akindustries.com

#### BrenLin Company, Inc.

Herman, MN  
888-606-1998 • 320-677-2838 • Fax: 320-677-3001  
brenlin@frontiernet.net  
www.seal-r.com  
**Ad on page 43**



#### EZset by Infiltrator

Old Saybrook, CT  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com



#### EZsnap Riser by Infiltrator

Old Saybrook, CT  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com

#### Hydro-Action

Plymouth, IN  
800-370-3749 • Fax: 574-935-8470  
pete@hydro-action.com  
www.hydro-action.com

#### Infiltrator Water Technologies, LLC

Old Saybrook, CT  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com  
**Ad on page 3**

#### Jet Inc.

Cleveland, OH  
800-321-6960 • 440-461-2000 • Fax: 440-442-9008  
email@jetincorp.com  
www.jetincorp.com  
**Ad on page 41**

#### National Precast Concrete Assoc.

Carmel, IN  
800-366-7731 • 317-571-9500 • Fax: 317-571-0041  
npca@precast.org  
www.precast.org/onsite  
**Ad on page 11**

#### Orenco Systems, Inc.

Sutherlin, OR  
800-348-9843 • 541-459-4449  
info@orenco.com  
www.orenco.com



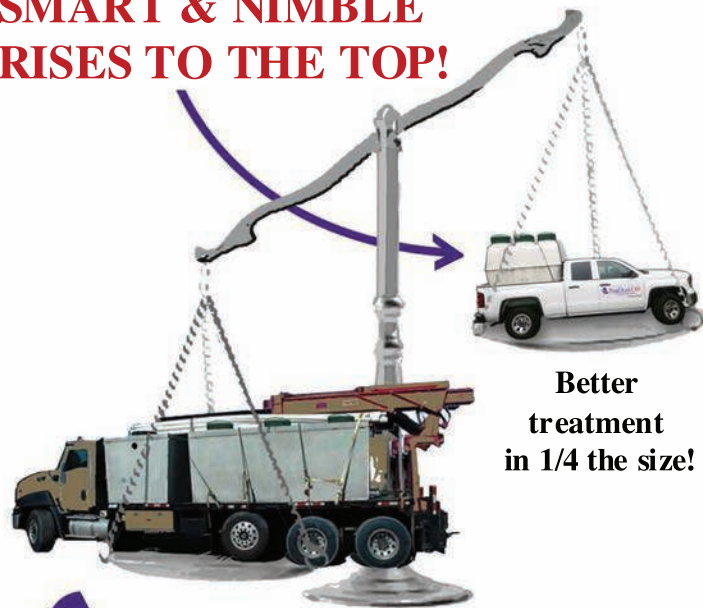
#### Polylok, Inc.

Wallingford, CT  
877-765-9565 • Fax: 203-284-8514  
sales@polylok.com  
www.polylok.com  
**Ad on page 52**

#### Sim/Tech Filter Inc.

Boyer City, MI  
888-999-3290 • 231-582-1020  
sales@gag-simtech.com  
www.simtechfilter.com  
**Ad on page 31**

## SMART & NIMBLE RISES TO THE TOP!



**Better  
treatment  
in 1/4 the size!**

**FujiClean USA™**  
Toward Clean Water...

**World's #1 onsite treatment company**

*Limited Distributorships Available*

207-406-2927 • [www.fujicleanusa.com](http://www.fujicleanusa.com)

**SPI**  
**SEPTIC PRODUCTS INC**

*The Most Complete Line of*  
**SYSTEM ALARMS  
FLOAT SWITCHES  
ON-SITE ACCESSORIES  
CONTROL PANELS**



Email [sales@SepticProducts.com](mailto:sales@SepticProducts.com)

Website [SepticProducts.com](http://SepticProducts.com)



## TUF-TITE, Inc.

Lake Zurich, IL  
800-382-7009 • 847-550-1011 • Fax: 847-550-8004  
sales@tuf-tite.com  
www.tuf-tite.com

**Ad on page 2**

## Wholesale Septic Supply

Dayton, TX  
844-660-0901  
info@wholesalesepticssupply.com  
www.wholesalesepticssupply.com

**Ad on page 8**

## Wieser Concrete

Maiden Rock, WI  
800-325-8456 • 715-647-2311  
www.wieserconcrete.com

**Ad on page 49**

## Septic Drainfield Restoration

### Advanced Drainage Systems, Inc.

Hilliard, OH  
800-821-6710 • Fax: 614-658-0204  
info@ads-pipe.com  
www.ads-pipe.com

### AK Industries

Plymouth, IN  
800-370-3749 • Fax: 574-935-8470  
pete@akindustries.com  
www.akindustries.com

### Aquaworx by Infiltrator

Old Saybrook, CT  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com

### Arcan Enterprises

Clarksville, TN  
888-352-7226 • Fax: 931-368-1904  
arcan@charter.net  
www.arcan.com

**Ad on page 51**

### BioMicrobics, Inc.

Lenexa, KS  
800-753-3278 • 913-422-0707 • Fax: 913-422-0808  
sales@biomicrobics.com  
www.biomicrobics.com

**Ad on page 10**

### Geomatrix Systems, LLC

Old Saybrook, CT  
860-510-0730  
info@geomatrixsystems.com  
www.geomatrixsystems.com

### Hydro-Action

Plymouth, IN  
800-370-3749 • Fax: 574-935-8470  
pete@hydro-action.com  
www.hydro-action.com

### Infiltrator Water Technologies, LLC

Old Saybrook, CT  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com

**Ad on page 3**

## NextGen Septic, LLC

Cincinnati, OH  
513-262-9506  
sales@nextgenseptic.com  
www.nextgenseptic.com



## Presby Environmental, Inc.

### Presby Environmental Inc. (PEI)

Whitefield, NH  
800-473-5298  
info@presbyeco.com  
www.presbyeco.com

**Ad on page 5**

### Sim/Tech Filter Inc.

Boyne City, MI  
888-999-3290 • 231-582-1020  
sales@gag-simtech.com  
www.simtechfilter.com

**Ad on page 31**

## Septic System Components

### Advanced Drainage Systems, Inc.

Hilliard, OH  
800-821-6710 • Fax: 614-658-0204  
info@ads-pipe.com  
www.ads-pipe.com

### Alita Industries, Inc.

Baldwin Park, CA  
626-962-2116  
sales@alita.com  
www.alita.com

**Ad on page 45**

### Aquaworx by Infiltrator

Old Saybrook, CT  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com

### Arcan Enterprises

Clarksville, TN  
888-352-7226 • Fax: 931-368-1904  
arcan@charter.net  
www.arcan.com

**Ad on page 51**

### BioMicrobics, Inc.

Lenexa, KS  
800-753-3278 • 913-422-0707 • Fax: 913-422-0808  
sales@biomicrobics.com  
www.biomicrobics.com

**Ad on page 10**

### BrenLin Company, Inc.

Herman, MN  
888-606-1998 • 320-677-2838 • Fax: 320-677-3001  
brenlin@frontiernet.net  
www.seal-r.com

**Ad on page 43**

### Eljen Corporation

East Hartford, CT  
800-444-1359 • 860-610-0426 • Fax: 860-610-0427  
info@eljen.com  
www.eljen.com

**Ad on page 29**

## Geomatrix Systems, LLC

Old Saybrook, CT  
860-510-0730  
info@geomatrixsystems.com  
www.geomatrixsystems.com

## Infiltrator Water Technologies, LLC

Old Saybrook, CT  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com

**Ad on page 3**

### Jet Inc.

Cleveland, OH  
800-321-6960 • 440-461-2000 • Fax: 440-442-9008  
email@jetincorp.com  
www.jetincorp.com

**Ad on page 41**



## Presby Environmental, Inc.

### Presby Environmental Inc. (PEI)

Whitefield, NH  
800-473-5298  
info@presbyeco.com  
www.presbyeco.com

**Ad on page 5**

### Rissy Plastics, LLC

Torrington, CT  
877-221-4426 • 860-482-1645  
tanxrus@aol.com  
www.flout.net

### SALCOR

Fallbrook, CA  
760-731-0745 • Fax: 760-731-2405  
jsruver@aol.com  
www.salcor.world  
**Ad on page 9**

## Septic Products, Inc.

Ashland, OH  
419-282-5933 • Fax: 419-282-5943  
sales@septicproducts.com  
www.septicproducts.com

**Ad on page 37**

### Sim/Tech Filter Inc.

Boyne City, MI  
888-999-3290 • 231-582-1020  
sales@gag-simtech.com  
www.simtechfilter.com

**Ad on page 31**



## SJE RHOMBUS

### SJE-Rhombus®

Detroit Lakes, MN  
888-342-5753 • 218-847-1317 • Fax: 218-847-4617  
sje@sjeinc.com  
www.sjerrhombus.com

**Ad on page 15**

## TUF-TITE, Inc.

Lake Zurich, IL  
800-382-7009 • 847-550-1011 • Fax: 847-550-8004  
sales@tuf-tite.com  
www.tuf-tite.com

**Ad on page 2**

## Septic Tank Concrete

### Crest Precast, Inc.

LaCrescent, MN  
800-658-9045 • 507-895-2342 • Fax: 507-895-2377  
info@crestprecastconcrete.com  
www.crestprecastconcrete.com

**Ad on page 43**

### National Precast Concrete Assoc.

Carmel, IN  
800-366-7731 • 317-571-9500 • Fax: 317-571-0041  
npca@precast.org  
www.precast.org/onsite

**Ad on page 11**

### Wieser Concrete

Maiden Rock, WI  
800-325-8456 • 715-647-2311  
www.wieserconcrete.com

**Ad on page 49**

## Septic Tank Forms

### The Shaddix Company, Inc.

Cullman, AL  
256-737-0051  
dshaddix@shaddix.us  
www.shaddix.us

**Ad on page 51**

### Wieser Concrete

Maiden Rock, WI  
800-325-8456 • 715-647-2311  
www.wieserconcrete.com

**Ad on page 49**

## Septic Tank Poly

### AK Industries

Plymouth, IN  
800-370-3749 • Fax: 574-935-8470  
pete@akindustries.com  
www.akindustries.com

### Aquaworx by Infiltrator

Old Saybrook, CT  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com



## Den Hartog Industries, Inc.

### Den Hartog Industries, Inc.

Hospers, IA  
800-342-3408 • 712-752-8432  
sales@denhartogindustries.com  
www.denhartogindustries.com

**Ad on page 33**

### Ecoflo / Premier Tech Aqua

Quakertown, PA  
800-632-6356  
pta@premiertech.com  
www.ecoflbiofilter.com

### Hydro-Action

Plymouth, IN  
800-370-3749 • Fax: 574-935-8470  
pete@hydro-action.com  
www.hydro-action.com





**Infiltrator Septic Tanks**  
Old Saybrook, CT  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com

**Infiltrator Water Technologies, LLC**  
Old Saybrook, CT  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com  
**Ad on page 3**

**Jet Inc.**  
Cleveland, OH  
800-321-6960 • 440-461-2000 • Fax: 440-442-9008  
email@jetincorp.com  
www.jetincorp.com  
**Ad on page 41**



**Roth North America**  
Syracuse, NY  
866-943-7256 • 315-579-3326  
sales@roth-usa.com  
www.RothMultitank.com  
**Ad on page 45**

## Sludge Sampling Equipment

**Sim/Tech Filter Inc.**  
Boyne City, MI  
888-999-3290 • 231-582-1020  
sales@gag-simtech.com  
www.simtechfilter.com  
**Ad on page 31**

## Software - Business

**ServiceCore**  
Lakewood, CO  
833-600-0132 • 844-336-0611  
hello@servicecore.com  
www.servicecore.com  
**Ad on page 41**

## Storage Tanks

**AK Industries**  
Plymouth, IN  
800-370-3749 • Fax: 574-935-8470  
pete@akindustries.com  
www.akindustries.com



**Den Hartog Industries, Inc.**  
Hospers, IA  
800-342-3408 • 712-752-8432  
sales@denhartogindustries.com  
www.denhartogindustries.com  
**Ad on page 33**

**Hydro-Action**  
Plymouth, IN  
800-370-3749 • Fax: 574-935-8470  
pete@hydro-action.com  
www.hydro-action.com

**Infiltrator Water Technologies, LLC**  
Old Saybrook, CT  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com  
**Ad on page 3**

## UV Disinfection Equipment

**AK Industries**  
Plymouth, IN  
800-370-3749 • Fax: 574-935-8470  
pete@akindustries.com  
www.akindustries.com

**Ecoflo / Premier Tech Aqua**  
Quakertown, PA  
800-632-6356  
pta@premiertech.com  
www.ecoflobiofilter.com

**Hydro-Action**  
Plymouth, IN  
800-370-3749 • Fax: 574-935-8470  
pete@hydro-action.com  
www.hydro-action.com



**Jet Inc.**  
Cleveland, OH  
800-321-6960 • 440-461-2000 • Fax: 440-442-9008  
email@jetincorp.com  
www.jetincorp.com  
**Ad on page 41**

**Norweco, Inc.**  
Norwalk, OH  
800-667-9326 • 419-668-4471 • Fax: 419-663-5440  
email@norweco.com  
www.norweco.com  
**Ad on page 25**

**Polylok, Inc.**  
Wallingford, CT  
877-765-9565 • Fax: 203-284-8514  
sales@polylok.com  
www.polylok.com  
**Ad on page 52**



**SALCOR**  
Fallbrook, CA  
760-731-0745 • Fax: 760-731-2405  
jsruver@aol.com  
www.salcor.world  
**Ad on page 9**

## Vent Pipe Filters



**Presby Environmental, Inc.**

**Presby Environmental Inc. (PEI)**  
Whitefield, NH  
800-473-5298  
info@presbyeco.com  
www.presbyeco.com  
**Ad on page 5**

**Simple Solutions Distributing**  
West Milford, NJ  
800-667-8465 • 973-846-7817 • Fax: 973-858-0219  
sales@industrialodorcontrol.com  
www.industrialodorcontrol.com  
**Ad on page 51**

**TUF-TITE, Inc.**  
Lake Zurich, IL  
800-382-7009 • 847-550-1011 • Fax: 847-550-8004  
sales@tuf-tite.com  
www.tuf-tite.com  
**Ad on page 2**

## Water/Wastewater Reuse Systems

**AK Industries**  
Plymouth, IN  
800-370-3749 • Fax: 574-935-8470  
pete@akindustries.com  
www.akindustries.com

**BioMicrobics, Inc.**  
Lenexa, KS  
800-753-3278 • 913-422-0707 • Fax: 913-422-0808  
sales@biomicrobics.com  
www.biomicrobics.com  
**Ad on page 10**

**Geoflow**  
Corte Madera, CA  
800-828-3388 • 415-927-6000 • Fax: 415-927-0120  
customerservice@geoflow.com  
www.geoflow.com

**Hydro-Action**  
Plymouth, IN  
800-370-3749 • Fax: 574-935-8470  
pete@hydro-action.com  
www.hydro-action.com

**Infiltrator Water Technologies, LLC**  
Old Saybrook, CT  
800-221-4436 • 860-577-7000 • Fax: 860-577-7001  
info@infiltratorwater.com  
www.infiltratorwater.com  
**Ad on page 3**

**NextGen Septic, LLC**  
Cincinnati, OH  
513-262-9506  
sales@nextgenseptic.com  
www.nextgenseptic.com



Engineering the future of water and wastewater treatment

**Norweco, Inc.**  
Norwalk, OH  
800-667-9326 • 419-668-4471 • Fax: 419-663-5440  
email@norweco.com  
www.norweco.com  
**Ad on page 25**

**Orenco Systems, Inc.**  
Sutherlin, OR  
800-348-9843 • 541-459-4449  
info@orenco.com  
www.orenco.com



**Presby Environmental, Inc.**

**Presby Environmental Inc. (PEI)**  
Whitefield, NH  
800-473-5298  
info@presbyeco.com  
www.presbyeco.com  
**Ad on page 5**

**SALCOR**  
Fallbrook, CA  
760-731-0745 • Fax: 760-731-2405  
jsruver@aol.com  
www.salcor.world  
**Ad on page 9**

ONSITE  
**installer**



[www.onsiteinstaller.com](http://www.onsiteinstaller.com)



# Florida's Governor and Legislature Push for Onsite System Oversight, Periodic Inspections

By David Steinkraus

New Florida governor Ron DeSantis made recent water policy announcements.

During a trip around the state, DeSantis announced a multipoint executive order to address some of the water-quality issues plaguing the state. One part of the order instructed the state Department of Environmental Protection to establish a septic tank remediation program that would include a requirement for local government matching funds. DeSantis told the DEP to identify opportunities to invest in green infrastructure, such as wetland treatment systems, and he told the department to create an outreach campaign about the importance of conservation and reuse.

DeSantis also ordered the DEP to assemble a task force on the state's problem with blue-green algae blooms, participate in the state Fish and Wildlife Conservation Commission Harmful Algal Bloom Task Force, continue to explore options to stop Georgia's water use from affecting the Apalachicola River and Apalachicola Bay, and appoint a chief science officer who would prioritize the collection of data to support research work on current environmental concerns.

Republican DeSantis won his position by a close margin following a recount in his race with Tallahassee Mayor Andrew Gillum. Environmental issues were among the top priorities discussed during the campaign. Over the past couple of years, state news organizations have spent considerable time reporting on algae blooms and water-quality problems that threaten public health and the state's vast tourism industry.

A study published by Miami-Dade County warned of increased danger to onsite systems because of sea-level rise associated with climate change.

About 108,000 properties in the county use onsite systems, the report says. Rising sea levels push groundwater higher, reducing the distance from groundwater to drainfield and thus reducing the ability of soil to provide effluent treatment. More than half of the county's 105,000 residential onsite systems have annual issues now, the report says.

Removing every tank and installing connections to the municipal sewer system would cost about \$3.3 billion, the report says. At the moment, people who want to connect must cover the cost themselves. Although the average cost is about \$15,000, a county official says in some areas the cost would be about \$50,000 per property.

Other water action is happening in the Legislature.

House committees have HB 85, which, among other things, would require onsite systems to be inspected at least once every five years unless the system is covered by an operating permit.

In the Senate, the Agriculture, Environment and General Government Appropriations Subcommittee heard testimony from a researcher who claims

failing septic tanks are the biggest source of nutrient loads in state waterways and should be the priority in solving water-quality problems.

Brian Lapointe, from Florida Atlantic University, says the state needs to go to war on blue-green algae and do that by focusing on septic systems, not the Everglades reservoir. The reservoir is intended to trap nutrient-rich water flowing off agricultural fields, and it was a topic for DeSantis. In his executive order, he instructed the South Florida Water Management District to immediately start designing the next phase of the reservoir, formally called the Everglades Agricultural Area Storage Reservoir Project.

Lapointe's testimony began with a video funded by the Florida Chamber of Commerce, which initially opposed the reservoir, writes the *Tampa Bay Times*.

Julie Wraithmell, executive director of Audubon Florida, faults Lapointe's presentation and tells the *Tampa Bay Times* she doesn't understand why onsite systems should be blamed for most nutrient problems.

"There is no smoking gun for our water-quality issues and no silver bullet," she says. "It's unfortunate because while (onsite is) part of the science, it's not all of the science, and for decision-makers to make good decisions, they need all the information."

## Montana

Ravalli County in the western part of the state sees a problem developing with onsite systems and is trying to get ahead of it.

"We've seen requests to replace septic systems from the late '70s and early '80s coming in. It's only a matter of time before those installed in the late '80s and early '90s will begin to fail," says county Environment Health Director John Palacio, according to the *Ravalli Republic* newspaper. "We want to have a policy in place so we can act quickly, not just for the landowner, but also for neighboring properties that might be impacted."

So the county is formulating a set of guidelines to govern replacement of unpermitted systems. There was no permitting system before 1972, yet some homes built between 1972 and 1982 also do not have permits, and the county records for that period are sketchy.

The proposed policy would declare systems installed from 1972 through 1982 to be pre-existing systems, and replacing them would require an installation permit. No expansions would be allowed.

Replacements for systems installed between Jan. 1, 1983, and April 29, 1993, would have to meet current regulations, but again, there would be no expansion allowed to accommodate a change of use at the property. Any system installed after April 29, 1993, would also have to meet current regulations.

continued >>



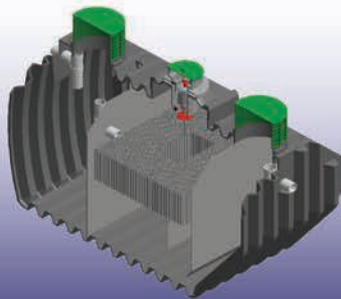


#### Accu-Tab® Wastewater Tablets

- U.S. made, recognized global brand with no imported ingredients
- Chlorine tablet with beveled edges to minimize wicking
- Consistent chlorine strength for reliable dosing control
- No measuring, mixing, or spilling of chemicals common with granular and liquid chlorine
- Stearate free formula with balanced pH

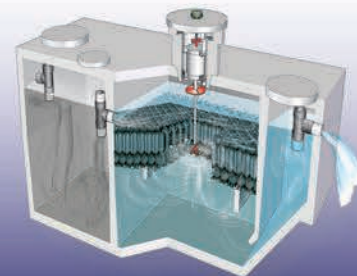
#### Illumi-Jet UV Disinfection Unit®

- UL listed as a NEMA 6p enclosure (watertight submergence test)
- Install directly in ground or in pump tank on 4" effluent line
- Complete disinfection without the use of chemicals
- Hermetically sealed electrical components
- High capacity disinfection reservoir
- Kapton® seals improve serviceability



#### Residential & Commercial Treatment Plants

- Concrete and rugged polyethylene material
- 500-1500 GPD Residential Systems
- 1500-300,000 GPD Commercial Systems
- Up to 800 GPD in plastic design
- A single moving part
- Innovative design for easy system servicing
- No filters to clog
- Lifetime exchange program

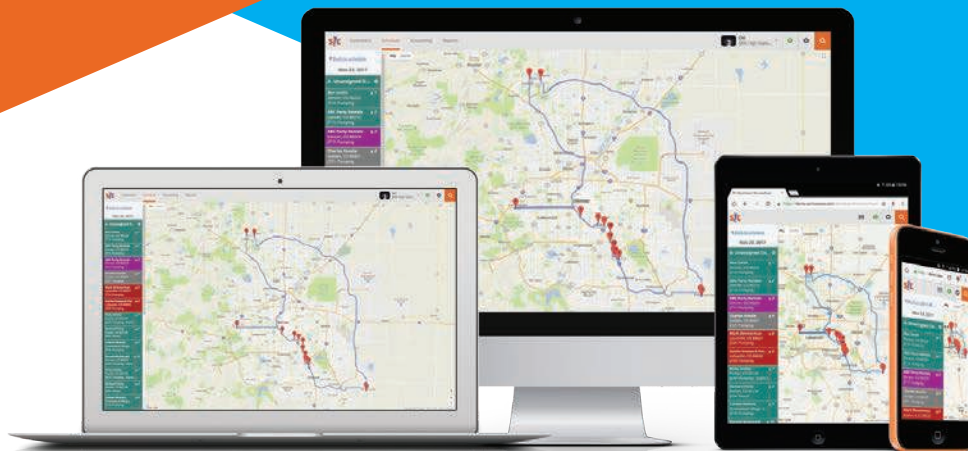


www.jetincorp.com • 800.321.6960 • email@jetincorp.com



## Stress free business software for the liquid waste industry.

- Route & Schedule Optimization
- Customer Management
- QuickBooks Integration
- Accounting & Invoicing
- Inventory Availability
- Mobile App
- Fun



www.servicecore.com

855-979-8865 hello@servicecore.com

In other Montana news, a grant from the state Department of Natural Resources will help Lincoln County residents get low-interest loans to fix onsite system problems or connect to municipal sewer lines. The department is providing \$40,000 that will create a revolving-loan fund. Interest on money not loaned out will be plowed back into the fund.

To be eligible, people must provide a letter from a bank showing they have been denied personal loans to fix problems, reports *The Western News* based in Libby. No other financial information will be required. Interest will be 4 percent. Property owners would have to get bids from two installers.

Lincoln County forms the northwestern corner of Montana at the Canadian border.

### California

San Diego County supervisors waived impact fees in order to encourage people to build “granny flats” on properties in unincorporated communities. Onsite wastewater impact fees are waived along with fees for roads and infrastructure, parks and drainage improvement. The program is a five-year trial and will cost the county \$11 million to offset the lost fee revenue.

San Diego County allows granny flats to be up to 1,200 square feet. They may be free-standing or attached to existing homes and may include kitchens, bathrooms, living areas and private entrances. They may not be sold as individual homes but may be rented or may provide living space for family, friends, students, the elderly, the disabled or in-home caregivers.

A state law easing restrictions on granny flats took effect in 2018. Both the state and local actions are intended to help ease the shortage of affordable homes in California.

### Colorado

Montezuma County commissioners put a six-month hold on a new rule requiring onsite system inspections when a property is sold. The rule took effect for 2019.

After complaints from property owners and the real estate industry, one of the commissioners who supported the rule changed his mind about it. He now says it is government overreach and imposes burdensome costs, according to *The Journal* newspaper in Cortez.

Point-of-sale inspection requirements are an option allowed by the Colorado Department of Public Health and Environment, and 22 counties have such programs. Chuck Cousino, a water-quality official with the department, says the concerns aired by citizens in Montezuma County are common when inspection programs begin. Objections fade as initial glitches are solved and people adjust, he says.

### Alaska

Because of the prevalence of steel tanks in Anchorage, the state’s largest city has new rules in place to govern the installation of tanks.

Starting last fall, inspectors were required to measure the liquid level in tanks to determine whether they may be leaking. If a tank is 20 to 30 years old and the liquid level is normal, owners are advised the tank may be approaching the end of its life. A tank 30 or more years old should be replaced or at a minimum exposed so it can be examined for deterioration.

Starting this month, only steel tanks coated on the inside and outside with polyurethane will be allowed for installation. Also, tanks must have an access opening in the first compartment that is at least 20 inches in diameter. Other compartments must each have an access pipe of at least 4 inches in diameter with an airtight cap.

### Wisconsin

After several delays of deadlines, this year Douglas County must comply with the state onsite inspection tracking rule passed in 2000. The county recently began mailing the first set of notices to property owners telling them their systems must be inspected once every three years. Systems installed since July 2000 have already been required to have a maintenance plan.

If a system is failing, the property owner will have 12 months to fix or replace it unless there is an imminent threat to public health, reports the *Superior Telegram* newspaper. The county is at the northwestern tip of Wisconsin, and it touches the southwestern end of Lake Superior.

In central Wisconsin, a septic pumper in Bloomer must pay \$20,661 in fines and another \$9,839 in court costs and fees after pleading guilty to improper disposal of sewage, failing to leave fields litter-free, improper recordkeeping and failing to properly treat the soil.

The state filed charges against Jonathan Bischel and Bischel’s Septic Service after an investigation that lasted several years, reports the *Leader-Telegram* newspaper of Eau Claire. Court records say Bischel bought an old gravel pit and illegally dumped sewage in it. Investigators from the state Department of Natural Resources installed a GPS tracker on one of Bischel’s trucks, and it showed he disposed of wastewater at the gravel pit 35 times from August to September 2014.

State conservation wardens also found litter, such as tampon sleeves and pieces of clothing, in sludge Bischel spread on fields.

### Idaho

Blaine County commissioners are beginning the process to relax the county’s onsite rules in order to spur development.

The changes will address a continuing concern from developers who face a local rule requiring lots be at least 1 acre in size if a home will not be connected to municipal sewer lines. The land area restriction is intended to provide room for a drainfield, reports the *Idaho Mountain Express* newspaper. Kathy Grotto, the county’s land use deputy administrator, tells commissioners she favors broad language to allow any type of wastewater system that regulatory agencies can approve. That would allow the use of new or different technologies, she says.

Blaine County is in the central part of the state and includes the ski resort area of Sun Valley. 

---

“Rules and Regs” is a monthly feature in *Onsite Installer*™. We welcome information about state or local regulations of potential broad interest to onsite contractors. Send ideas to [editor@onsiteinstaller.com](mailto:editor@onsiteinstaller.com).





# FEATURED IN AN ARTICLE?

## MAKE THE MOST OF IT!

Reprints available:

Hard copy color reprints | Electronic reprints

Visit [onsiteinstaller.com/order/reprint](http://onsiteinstaller.com/order/reprint)  
for articles and pricing



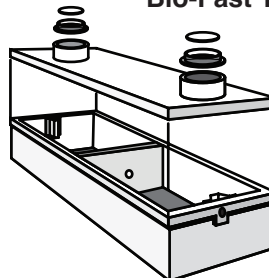
## Water Tight Structures 2 Compartment

### Commercial Sizes - Gallons

2,000 - 3,000 - 5,000 - 6,000 - 8,000  
10,000 - 12,000 - 15,000 - 18,000  
20,000 - 25,000 - 30,000 - 38,000 - 40,000

Water Tight Construction  
Tanks meet ASTM C1227 and C913

Septic Tanks - Sand Filters - Grease Interceptors  
Bio-Fast Tanks - Nibbler Tanks



Nationwide Service

**CREST** Precast, Inc.  
PCI & NPCA Certified Plant  
**1-800-658-9045**

[www.crestprecastconcrete.com](http://www.crestprecastconcrete.com)

[info@crestprecastconcrete.com](mailto:info@crestprecastconcrete.com)



Seal-R™  
Sizes:  
12", 15", 18",  
24", 30",  
36", 42"

## Seal-R Lids, Rings & Hinge Systems

(Hinges Available On 24"-42")

## Stock Up for Spring

**Customized Lids**  
Add Your Company Name

**Get the Exact Size for Each Job!**

Plastic riser pipe gives an exact height each time. Try our system and never have to carry concrete pipe and lids again. Save time by not having to assemble multiple sections.

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



**BrenLin Company, Inc.**

Est. 1998 • Manufacturers of Seal-R™ Products

**888-606-1998 | [www.seal-r.com](http://www.seal-r.com)**

# You Say Soil Mottles; I Say Redoximorphic Features

You don't have to be a soil scientist to evaluate soil coloration found in the field. We'll teach you the basics.

By Jim Anderson and David Gustafson

**A**s we move into the meat of our “field” season, we’ve had a few questions about identifying redoximorphic features in the soil and how they relate to the presence of seasonal or permanent zones of saturation that are considered limiting soil layers. Identifying features related to saturated soil zones sets the baseline for determining separation distance from the bottom of the system infiltration surface to the limiting layer.

These features at one time were referred to as soil mottles. However, this created confusion because soil mottles referred to any occurrence of color differences within a soil horizon giving the horizon a mottled appearance. For identification of saturated conditions, specific kinds of “mottles” needed to be recognized.

Understanding how redoximorphic features form requires some knowledge of the chemistry and microbiology involved. We do not expect you are or need to be chemists or microbiologists, but it is good to know how the features form. The knowledge can help you sort out if the features you identify in the field are due to soil saturation.

## PAINTING THE SOIL

In subsoil horizons, iron oxide minerals give the horizons red, yellow, brown or orange coloration. Manganese oxide minerals produce black colors. These mineral oxides naturally coat the surfaces of individual sand, silt and clay particles. Think of it as a coat of paint on the surfaces of the particles. Without this paint, the particles would be gray in color.

Red, yellow, brown and orange colors occur when iron is in its oxidized state — that is, in the presence of oxygen. Black colors occur when manganese is in its oxidized state. These minerals can be chemically reduced in soils under certain conditions. This means that the iron and manganese ions accept electrons from a source other than oxygen, and in soils, this is usually from organic matter being decomposed by bacteria.

When a soil is well-aerated (not saturated), bacteria consume and reduce oxygen in the air-filled pores. When a soil is saturated, the bacteria consume and reduce the oxygen dissolved in the water. When the oxygen is gone, the bacteria continue to break down the organic matter but they also reduce nitrate-nitrogen and the manganese and iron oxides. The chemical reactions occur in sequence, so oxygen goes first, followed by nitrate, manganese and iron.

When iron and manganese are reduced, several things begin to happen. Iron and manganese dissolve in water, soil color changes to gray, and iron and manganese move with the soil water to other parts of the soil horizon or are

**We do not expect you are or need to be chemists or microbiologists, but it is good to know how the features form.**

The knowledge can help you sort out if the features you identify in the field are due to soil saturation.

leached from the soil. The term redoximorphic refers to the reduction and oxidation chemical reactions and the resulting appearance or morphology of the soil horizon.

When the soil becomes unsaturated and aerated again, areas of the soil where the iron and manganese vacated appear gray due to the natural color of the sand, silt and clay particles mentioned above. The areas where iron and manganese have migrated to are red, brown, yellow, orange or black in color. This pattern provides a mottled appearance to the soil horizon and reflects the fact that the soil is saturated for periods of time long enough for the chemical reactions to occur.

While the length of time it takes for the reaction to occur varies from place to place, it implies for our purpose of identifying a limiting soil layer that saturation occurs for a long enough period that it will interfere with acceptance and treatment of septic tank effluent.

## EVALUATION

Three major kinds of features can be recognized in the field by an experienced soil scientist or site evaluator. We maintain that installers and service providers with a knowledge of soils in their area can also identify these features. For this reason, we regularly conduct field workshops or activities to evaluate these features.

The three kinds of features are redox concentrations, redox depletions and reduced matrices.

**Redox concentrations** are bodies where iron and manganese have accumulated. These accumulations can have several forms including nodules or concretions, soft masses or pore linings. Nodules and concretions are firm to extremely firm, irregularly shaped bodies with diffuse boundaries. Soft masses are just that irregular and soft within the inside (or matrix) of the soil





## ALITA® LINEAR AIR PUMP

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

☎ Call **626-962-2116** for more information



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



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



THIS IS WHAT IT WOULD LOOK LIKE IF WE PRINTED [ONSITEINSTALLER.COM](http://ONSITEINSTALLER.COM)  
**— THOUSANDS OF STORIES, PRODUCTS AND IDEAS**



GET ACCESS TO EVERYTHING WE CAN'T FIT IN THE MAGAZINE.  
 ADDITIONAL STORIES, VIDEOS, NEWS BRIEFS AND OTHER GREAT  
 INFORMATION THAT LETS YOU GET THE MOST OUT OF *ONSITE INSTALLER*.  
[WWW.ONSITEINSTALLER.COM](http://WWW.ONSITEINSTALLER.COM)

structural units or peds. Pore linings are where the accumulations are along a root channel or crack.

**Redox depletions** are areas vacated by the mineral oxides either along old root channels or in the matrix of the peds.

**Reduced matrices** have the low soil colors in place but when removed from the profile and exposed to oxygen will change color as iron and manganese in the soil is oxidized. This type of condition usually means the soil is most often saturated and water movement through the soil is very slow because the iron and manganese have not leached out of the profile.

With this background information on formation and kinds of redoximorphic features, upcoming columns will discuss interpretation of what is seen in the field and relate the interpretation to some of the questions we are most often asked about redoximorphic features. □



## T&T Tools, Inc.

# 800.521.6893

Probes ▼ Hooks
**T&T Tools, Inc.**
Probes ▼ Hooks

### Hooks...

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

### Probes...

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

## Call for a FREE Catalog

[www.mightyprobe.com](http://www.mightyprobe.com)  
 Email: [sales@mightyprobe.com](mailto:sales@mightyprobe.com) Fax: 800.521.3260



## Septic Tanks • Water Cisterns Pump Tanks • Holding Tanks Rain Water Harvesting

**Multi Usage**
**Multi Layer**
**Multi Coverage**

- Inner layer of FDA approved virgin HDPE, two inside layers of PE for improved stability, plus one outer layer of black and UV-stabilized PE
- Lifetime\* corrosion protection and 5 years of labor insurance
- Strongest & heaviest poly tank on the market
- No water for backfilling required
- Low profile
- 100% watertight

Our multi-layered tank construction, consisting of virgin material surrounded by 3 layers of protection.








**BEST TANK. BEST WARRANTY. BEST SYSTEM.**

Roth Global Plastics  
[www.roth-america.com](http://www.roth-america.com) 866-943-7256

\*see warranty for details

# Nova Scotia Wastewater Pros Working Closely With the Department of Environment

More residents in this lightly populated province utilize onsite systems than municipal wastewater treatment, so customer education is an important job for local installers and pumpers

Compiled by Betty Dageforde

*In States Snapshot, we visit with a member of a state, provincial or national trade association in the decentralized wastewater industry. This time we learn about a member of Waste Water Nova Scotia.*



**James Baxter**  
operations manager

**Business:** Baird's Septic Tank Pumping,  
Upper Onslow, Nova Scotia

**Age:** 60

**Years in the industry:** 18

### Association involvement:

We've been members for quite some time in Waste Water Nova Scotia. Our owner, Allan Baird, and a couple other gentlemen had formed the Septic Pumpers Association of Nova Scotia in 1992. I was secretary and treasurer for many years. About 2008 we merged with Waste Water Nova Scotia, which was a much bigger organization and had a longer reach with the Department of Environment.

### Benefits of belonging to the association:

The association works closely with the Nova Scotia Department of Environment. It has a very good website. And it gets any news back to us

faster than waiting for a letter from the department. We were probably the first province to require certification for every pumper and portable restroom operator.

### Biggest issue facing your association right now:

There are a couple issues — keeping up with the changes in regulations and inconsistencies with the various regional (Department of Environment) offices. What you can do in one region may not be accepted in a different region. It's definitely something getting worked on. Another problem is people doing things "off the books" and not complying with regulations.

### Our crew includes:

Allan Baird, owner; Deanna Baird (Allan Baird's daughter-in-law) in the office; Rob Mont, who handles portable restrooms; and septic drivers Derek Reynolds, Brian Allan, Virginia Blondon and Calvin Schellenberg

### Typical day on the job:

I'm usually at the office by 7 a.m., checking the phone for messages. If I feel real ambitious, I'll even go onto the computer and look at the emails, but I usually wait for Deanna Baird to do that. And then I work on the assignments for the day before the drivers arrive — who's to do what, where do they go, seeing which vehicles will be required. Then when Allan Baird is not around, I take his disabled 40-year-old daughter to and from work. During the rest of the day, I will answer the phone, do the bookkeeping, prepare checks, pay bills and troubleshoot problems that come up. I also help customers who call in with issues.

### Helping hands - Indispensable crew member:

As far as I'm concerned, everybody is indispensable. We all carry our weight; we all know what needs to be done and we make sure it gets done. It's that simple.

### The job I'll never forget:

Sometimes people don't think before they do expansions or modifications to their property. There was a job where the owners had put an extension onto their house at ground level, and when the septic tank needed to be pumped, it was found underneath the bed in a bedroom. We had to move the bed, cut a hole in the floor and put the hose in through the window.





◀ Allan Baird, owner of Baird's Septic Tank Pumping, looks over the company's settling lagoon where cattails filter wastewater. (Photos courtesy of James Baxter)

▼ Technician Virginia Blondon outside a 2015 Freightliner M2 with a Vacutrax steel tank and Fruitland pump.



### Most challenging site I've worked on:

Coming up to spec for the updated Department of Environment regulations was a challenge. Everybody with a lagoon for disposal, whether private or municipal, had to come up to the new spec by the end of 2010, which meant a lot of upgrading for most everyone. It took us three years. That included building a completely new lagoon system to accept the material. We built it adjacent to our existing lagoon. The main change was size. It was double what we were used to.

We did the lion's share of the work ourselves but did contract with people to bring in the gravel to build our drying pad and do the excavating and dozing. It was a juggling act because we knew people were down there working and we had to make sure we didn't disrupt the flow of that work when we had to get into our existing disposal site. Our septic lagoon was the first one that has a discharge that goes through a natural filter system — cattails — through a maze. It was Allan Baird's idea. He tossed it to an engineer who figured it out. The success of it was good enough that there have been four more installed in the province.

### The craziest question I've been asked by a customer:

A lady called to get her septic tank pumped and she asked me: "Why do I even have one of those things? I'm from Calgary and all we did was flush the toilet and it went away." I had to explain what she had and why she had it. It's understandable — Calgary is on a municipal system. In Nova Scotia, approximately 55 percent of the population is on onsite septic systems. I've talked to many people who were brought up on municipal systems and they don't really understand the workings or maintenance requirements of a septic system. And just like when the province started promoting recycling and they put it into the education system and the children educated their parents, we strongly believe septic information should be in the education system and let the children educate their parents.

### If I could change one industry regulation, it would be:

I don't think I would change anything so much as I want more enforcement. It's all right to have a regulation, but it's no good if it's not enforced. For example, in this province you're not allowed to land-apply unless it's treated but there are some out there who are not exactly keeping up with that. Unless someone files a complaint, the department is not allowed to take any action.

### If I wasn't working in the wastewater industry, I would:

Before this I worked as a contractor so that's what I know. When people ask me how I got into this business, I always joke that it was the greatest mistake of my life. I read an ad in the paper but it didn't tell me anything other than they needed certain skills, which I had. I came into the yard, I saw what it was and I had to decide: Do I put the brakes on or keep going? I put the brakes on, and it's been the greatest thing that's ever happened to me. It truly is a joy. The people in this industry are so friendly and helpful.

### Crystal ball time - This is my outlook for the wastewater industry:

I do believe onsite systems will be changing more. They're probably going to go more toward treatment plant-type of ideas as opposed to the traditional field-bed ideas, and more homes tied into one system as opposed to having multiple systems. That would give better control for the authorities. Instead of looking at tens of thousands, they'll be looking at thousands. I think we are going to see mandatory pumping. It exists in Norway and several regions in Québec where homeowners pay for the service in their taxes and the pumper is contracted by the municipality. I think we'll see disposal going more toward dewatering. The problem with that is what do you do with the dewatered material? At a recent (Portable Sanitation Association International) convention in Florida, we went to a wastewater plant that is pelletizing the material into fertilizer, which has tremendous promise. The biggest issue with that is that to sell it, you have to disclose what it is and public perception of human waste is a major issue. ◻

# Serving the Industry

Visit your state and provincial trade associations

## ALABAMA

Alabama Onsite  
Wastewater Association;  
[www.aowainfo.org](http://www.aowainfo.org);  
334-396-3434

## ARIZONA

Arizona Onsite Wastewater  
Recycling Association;  
[www.azowra.org](http://www.azowra.org); 928-443-0333

## ARKANSAS

Arkansas Onsite  
Wastewater Association;  
[www.arkowa.com](http://www.arkowa.com)

## CALIFORNIA

California Onsite  
Wastewater Association;  
[www.cowa.org](http://www.cowa.org); 530-513-6658

## COLORADO

Colorado Professionals  
in Onsite Wastewater;  
[www.cpow.net](http://www.cpow.net); 720-626-8989

## CONNECTICUT

Connecticut Onsite Wastewater  
Recycling Association;  
[www.cowra-online.org](http://www.cowra-online.org);  
860-267-1057

## DELAWARE

Delaware On-Site Wastewater  
Recycling Association;  
[www.dowra.org](http://www.dowra.org)

## FLORIDA

Florida Onsite  
Wastewater Association;  
[www.fowaonsite.com](http://www.fowaonsite.com);  
321-363-1590

## GEORGIA

Georgia Onsite  
Wastewater Association;  
[www.onsitewastewater.org](http://www.onsitewastewater.org);  
706-407-2552

Georgia F.O.G. Alliance;  
[www.georgiafog.com](http://www.georgiafog.com)

## IDAHO

Onsite Wastewater  
Association of Idaho;  
[www.owaidaho.org](http://www.owaidaho.org);  
208-664-2133

## ILLINOIS

Onsite Wastewater  
Professionals of Illinois;  
[www.owpi.org](http://www.owpi.org)

## INDIANA

Indiana Onsite Waste Water  
Professionals Association;  
[www.iowpa.org](http://www.iowpa.org); 317-889-2382

## IOWA

Iowa Onsite Waste  
Water Association;  
[www.iowwa.com](http://www.iowwa.com); 515-225-1051

## KANSAS

Kansas Small Flows  
Association;  
[www.ksfa.org](http://www.ksfa.org); 913-594-1472

## KENTUCKY

Kentucky Onsite  
Wastewater Association;  
[www.kentuckyonsite.org](http://www.kentuckyonsite.org);  
855-818-5692

## MAINE

Maine Association  
of Site Evaluators;  
[www.maineese.com](http://www.maineese.com)

Maine Association of  
Professional Soil Scientists;  
[www.mapss.org](http://www.mapss.org)

## MARYLAND

Maryland Onsite Wastewater  
Professionals Association;  
[www.mowpa.org](http://www.mowpa.org); 443-570-2029

## MASSACHUSETTS

Yankee Onsite  
Wastewater Association;  
[www.maowp.org](http://www.maowp.org); 781-939-5710

## MICHIGAN

Michigan Onsite Wastewater  
Recycling Association;  
[www.mowra.org](http://www.mowra.org)

Michigan Septic  
Tank Association;  
[www.msta.biz](http://www.msta.biz); 989-808-8648

## MINNESOTA

Minnesota Onsite  
Wastewater Association;  
[www.mowa-mn.com](http://www.mowa-mn.com);  
888-810-4178

## MISSISSIPPI

Mississippi Pumpers Association;  
[www.mspumpersassociation.com](http://www.mspumpersassociation.com);  
601-249-2066

## MISSOURI

Missouri Smallflows  
Organization;  
[www.mosmallflows.org](http://www.mosmallflows.org);  
417-631-4027

## NEBRASKA

Nebraska On-site  
Waste Water Association;  
[www.nowwa.org](http://www.nowwa.org); 402-476-0162

## NEW HAMPSHIRE

New Hampshire Association  
of Septage Haulers;  
[www.nhash.com](http://www.nhash.com); 603-831-8670

Granite State Designers and  
Installers Association;  
[www.gsdia.org](http://www.gsdia.org); 603-228-1231

## NEW MEXICO

Professional Onsite Wastewater  
Reuse Association of  
New Mexico;  
[www.powranm.org](http://www.powranm.org);  
505-989-7676

## NEW YORK

Long Island Liquid Waste  
Association, Inc.;  
[www.lilwa.org](http://www.lilwa.org); 631-585-0448

## NORTH CAROLINA

North Carolina Septic  
Tank Association;  
[www.ncsta.net](http://www.ncsta.net); 336-416-3564

North Carolina  
Portable Toilet Group;  
[www.ncportabletoiletgroup.org](http://www.ncportabletoiletgroup.org);  
252-249-1097

North Carolina Pumper Group;  
[www.ncpumpergroup.org](http://www.ncpumpergroup.org);  
252-249-1097

## OHIO

Ohio Onsite  
Wastewater Association;  
[www.ohioonsite.org](http://www.ohioonsite.org);  
888-294-0084

## OREGON

Oregon Onsite  
Wastewater Association;  
[www.o2wa.org](http://www.o2wa.org); 541-389-6692



## PENNSYLVANIA

Pennsylvania Association of  
Sewage Enforcement Officers;  
[www.pa-seo.org](http://www.pa-seo.org); 717-761-8648

Pennsylvania Onsite Wastewater  
Recycling Association;  
[www.powra.org](http://www.powra.org)

Pennsylvania Septage  
Management Association;  
[www.psmma.net](http://www.psmma.net); 717-763-7762

## TENNESSEE

Tennessee Onsite  
Wastewater Association;  
[www.tnonsite.org](http://www.tnonsite.org)

## TEXAS

Texas On-Site  
Wastewater Association;  
[www.txowa.org](http://www.txowa.org); 409-718-0645

Education 4 Onsite  
Wastewater Management;  
[www.e4owm.com](http://www.e4owm.com); 713-774-6694

## VIRGINIA

Virginia Onsite Wastewater  
Recycling Association;  
[www.vowra.org](http://www.vowra.org); 540-377-9830

## WASHINGTON

Washington On-Site  
Sewage Association;  
[www.wossa.org](http://www.wossa.org); 253-770-6594

## WISCONSIN

Wisconsin Onsite Water  
Recycling Association;  
[www.wowra.com](http://www.wowra.com); 888-782-6815

Wisconsin Liquid Waste  
Carriers Association;  
[www.wlwca.com](http://www.wlwca.com); 888-782-6815

## NATIONAL

Water Environment Federation;  
[www.wef.org](http://www.wef.org); 800-666-0206

National Onsite Wastewater  
Recycling Association;  
[www.nowra.org](http://www.nowra.org); 800-966-2942

National Association of  
Wastewater Technicians;  
[www.nawt.org](http://www.nawt.org); 800-236-6298

## CANADA

### ALBERTA

Alberta Onsite Wastewater  
Management Association;  
[www.aowma.com](http://www.aowma.com); 877-489-7471

### BRITISH COLUMBIA

British Columbia Onsite  
Wastewater Association;  
[www.bcossoa.org](http://www.bcossoa.org); 778-432-2120

WCOWMA Onsite Wastewater  
Management of B.C.;  
[www.wcowma-bc.com](http://www.wcowma-bc.com);  
877-489-7471

### MANITOBA

Manitoba Onsite Wastewater  
Management Association;  
[www.mowma.org](http://www.mowma.org); 877-489-7471

Onsite Wastewater Systems  
Installers of Manitoba, Inc.;  
[www.owsim.com](http://www.owsim.com); 204-771-0455

### NEW BRUNSWICK

New Brunswick Association of  
Onsite Wastewater Professionals;  
[www.nbaowp.ca](http://www.nbaowp.ca); 506-455-5477

### NOVA SCOTIA

Waste Water Nova Scotia;  
[www.wwns.ca](http://www.wwns.ca); 902-246-2131

### ONTARIO

Ontario Onsite  
Wastewater Association;  
[www.oowa.org](http://www.oowa.org); 855-905-6692

Ontario Association of  
Sewage Industry Services;  
[www.oasisontario.on.ca](http://www.oasisontario.on.ca);  
877-202-0082

### SASKATCHEWAN

Saskatchewan Onsite Wastewater  
Management Association;  
[www.sowma.ca](http://www.sowma.ca); 877-489-7471

### CANADIAN REGIONAL

Western Canada Onsite  
Wastewater Management  
Association;  
[www.wcowma.com](http://www.wcowma.com);  
877-489-7471 □

## BUILD STRONG - BUILD SAFE

WITH PRECAST TANKS TO 40,000 GALLONS

◆ Septic, Grease  
Interceptors,  
Aeration,  
Holding Tanks

◆ Available in  
Sizes 750 to  
40,000 Gallon

◆ Extra Heavy  
Duty Tanks —  
HS20 Loading

◆ Fast, Efficient  
Settings



Visit us on the Web: [www.wieserconcrete.com](http://www.wieserconcrete.com)

◆ Vacuum-Tested, Water Tight Structures

◆ Tanks for Bio-Microbics and Nibblers, Sand Filters

◆ Custom Sizes Available to Fit Your Needs

◆ National Delivery and Setting

**WIESER CONCRETE**  
Innovation, Quality  
and Service since 1965



1-800-325-8456

# Can't get enough

# Installer?



Since 2004 *Onsite Installer* has been telling your story. Read past issues to relive the articles, news and events of the wastewater treatment industry.

Visit [onsiteinstaller.com](http://onsiteinstaller.com) to read past issues



Durable Gear for Extreme Conditions



WEATHERTIGHT™

## HANDGUN CASES



Water Resistant or Waterproof  
Models Available

### 9" Case

Details: PVC Exterior, Floats

### 16" Case

Details: PVC Exterior, Floats

## COMPOUND BOW CASE



Water Resistant or Waterproof  
Models Available

### Bow Case

Details:  
PVC Exterior, Floats

## RIFLE CASES



### 44"x 15" Case

Details:  
PVC Exterior, Floats



### 48"x 10" Case

Details:  
PVC Exterior, Floats



### 54"x 10" Case

Details:  
PVC Exterior,  
Floats

Water Resistant or Waterproof  
Models Available

## HIGH PERFORMANCE COOLERS



Shown in Snow

### 20 Quart Cooler

Size: 21.25 x 13.75 x 14.25  
Capacity: 30 cans no ice



Shown in Surf

### 35 Quart Cooler

Size: 22.5 x 16.25 x 16.25  
Capacity: 48 cans no ice



Shown in Sand

### 45 Quart Cooler

Size: 27 x 16 x 16.25  
Capacity: 64 cans no ice



Shown in Sky

### 60 Quart Cooler

Size: 28.5 x 18.375 x 18  
Capacity: 95 cans no ice



Shown in Slate

### 75 Quart Cooler

Size: 34.25 x 18.375 x 18  
Capacity: 117 cans no ice

[WWW.RUGIDGEAR.COM](http://WWW.RUGIDGEAR.COM)

833-777-8443 | [SERVICE@RUGIDGEAR.COM](mailto:SERVICE@RUGIDGEAR.COM)

### RUGID DEALERS:

Archer's Pro Shop ..... Cotter, AR  
Archery Country ..... Austin, TX  
BlackOvis.com ..... West Valley City, UT  
Buck Mountain Sports Accs. .... Vergennes, VT  
G4 Archery, LLC ..... Hillsboro, OR

Gable Sporting Goods ..... Douglasville, GA  
Mark's Outdoors ..... Birmingham, AL  
MOR Archery ..... Shelby Township, MI  
Straightline Sports ..... Steamboat Springs, CO



# INDUSTRY NEWS

## Franklin Electric celebrates 75 years of business

Franklin Electric will be celebrating its 75th anniversary in 2019. The company was founded by E.J. "Ed" Schaefer and T.W. "Wayne" Kehoe in 1944 in Bluffton, Indiana. Franklin Electric started as a small motor manufacturing company and has grown into a global provider of systems and components for moving water and fuel.

## SJE moves in to new Florida location

SJE moved its Florida office to a new building in St. Petersburg. The building is more than 80 percent larger, providing space for growth. The new facility has 17,500 square feet, bringing the production space up to over 10,000 square feet. Other benefits include a one-level layout, improved employee common areas and a conference room. The address is 10040 18th St. N., Suite Number 1, St. Petersburg, and it is about 6 miles southeast of the old location. □

## Septic-Scrub™

**Used by More  
Professional Pumpers to  
Increase Their Business**

- Backed By Science ■
- Proven with Experience ■
- Many Satisfied Homeowners ■

Septic-Scrub™ is a superior product for the maintenance and restoration of septic system drainfields. Customers appreciate that it is environmentally safe, contains no organic chemicals and does not produce any toxic by-products. Most importantly, **Septic-Scrub works.** It breaks down sulfide buildup in the biomat and soil to allow for better water absorption. Learn more about Septic-Scrub at [www.arcan.com](http://www.arcan.com).

For information on increasing sales and providing a valuable service to your customers, call Arcan Enterprises at 888-35ARCAN (352-7226)

**arcan**

P.O. Box 31057 • Clarksville, TN 37040



**= Thank You!**

Hand-selected Wisconsin sausage and jerky delivered in a 20-qt. **RUGID** cooler.

**\$199.99** Delivered

**Meaty-Delivery™**

**meaty-delivery.com**  
**833-777-8443**

**Dig Perfect!**

**EXCAVISION**

No helper needed.  
Fits all excavators and dozers.  
[www.ExcaVision.com](http://www.ExcaVision.com)  
**800 344 4788**

**The Shaddix Company**

**Custom Made To  
Your Specs Truck  
Beds & Forms**



1500 & 1000 Gal.  
2 Compt. Septic Tank Forms



Septic Tank Delivery Beds

**256-737-0051**

[www.shaddix.us](http://www.shaddix.us)



PATENT #US 8,273,162

**IndustrialOdorControl.com**

A Broad and Economical Range of Odor Control Solutions

- Manhole Odor Inserts
- Pollution Control Barrels
- Activated Carbon
- Lift Station Odor Control
- Septic Vent Filters
- Custom Solutions

**Simple Solutions**  
DISTRIBUTING LLC  
Makers of the Wolverine Brand of Odor Control Solutions  
866-NO-STINK  
(866-667-8465)  
973-846-7817 in NJ

**JOIN**

THE CONVERSATION.

THE CAMARADERIE.

THE COMMUNITY.

**ONSITE  
installer™**

- f [facebook.com/OnsiteInstaller](https://www.facebook.com/OnsiteInstaller)
- t [twitter.com/OnsiteInstaller](https://twitter.com/OnsiteInstaller)
- y [youtube.com/OnsiteInstaller](https://www.youtube.com/OnsiteInstaller)
- in [linkedin.com/company/onsite-installer-magazine](https://www.linkedin.com/company/onsite-installer-magazine)



# Polylok wastewater products... *a septic tanks best friend!*



Polylok, Inc. has been at the forefront of effluent filter and onsite wastewater technology for over 35 years. With an extensive line of effluent filters, septic tank risers and covers, filter and tank alarms, safety devices, distribution boxes, and an array of onsite wastewater accessories, we are your one stop shop for all your septic tank needs. Trust the company that experts and professionals have trusted for over 35 years!



Visit our web site for our complete line of more than 200 onsite wastewater & drainage products.  
**[www.polylok.com](http://www.polylok.com) / 1-877-765-9565**