

ON SITE installer™

PROMOTING WASTEWATER TREATMENT QUALITY AND PROFESSIONAL EXCELLENCE www.on-site-installer.com

Help onsite customers avoid holiday overload
Page 6

A new RV park system in the desert southwest
Page 26

Stocking stuffers for your mechanic
Page 30

FARM AND HOME

Bob Tiedt's old-line Iowa agricultural drainage company turns to onsite work and finds a valuable niche to keep busy during a slow portion of the growing season

PAGE 10



FPS

DUAL SILICON CARBIDE
MECHANICAL SEALS

ADDITIONAL BUNA EXCLUSION SEAL

SEAL-FAIL INDICATION PROBE

DUCTILE IRON IMPELLER

3" OR 4" HORIZONTAL
FLANGE DISCHARGE

FIELD ADJUSTABLE WEAR PLATE

NC SERIES SUBMERSIBLE NON-CLOG PUMPS

Franklin Electric's Non-Clog pumps are designed to handle the absolute most demanding commercial or industrial applications and are backed by Franklin's long standing reputation for quality.

Experience Innovation. Experience Franklin.



Franklin Electric

franklinengineered.com

Protecting the Environment with
Innovative Wastewater Treatment Solutions



INFILTRATOR[®]
systems inc.

**IM-Series
Septic Tanks**

IM-540 • IM-1060
IM-1530

**STRONG & DURABLE
QUICK INSTALL**

A Revolutionary Advancement in Septic Tank Design

800-221-4436 • www.infiltratorsystems.com

contents

December 2014



onsite installer

Published monthly by

COLEpublishing

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



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

Website: www.onsiteinstaller.com

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

SUBSCRIPTIONS

A one year (12 issue) subscription to *Onsite Installer*™ in the United States or Canada is free to qualified subscribers. A qualified subscriber is any individual or company in the United States or Canada that partakes in the installation, design, maintenance, manufacture, treatment, consulting or sale of onsite wastewater treatment systems or supplies. Non-qualified subscriptions are available at a cost of \$60 per year in the United States and \$120 per year outside of the United States. To subscribe please visit 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 and Discover 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 nicolel@colepublishing.com.

CLASSIFIED ADVERTISING

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

DISPLAY ADVERTISING

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



Winnie May

EDITORIAL CORRESPONDENCE

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

REPRINTS AND BACK ISSUES

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

CIRCULATION

Circulation averages 21,954 copies per month. This figure includes both U.S. and International distribution.

© Copyright 2014 COLE Publishing Inc.

No part may be reproduced without permission of the publisher.



**WATER & WASTEWATER
EQUIPMENT, TREATMENT &
TRANSPORT SHOW**

www.wwett.com

EDUCATION DAY: Feb. 23, 2015 EXHIBITS OPEN: Feb. 24 - 26, 2015
Indiana Convention Center, Indianapolis, Indiana

COVER STORY

10 Farm and Home By Dee Goerge

ON THE COVER: After Bob Tiedt started installing agricultural drainage tile for his family's business in Iowa, he discovered that onsite system installation is a good complement to work in the farm fields. Tiedt is shown on a job with a John Deere backhoe installing Infiltrator Systems Quick 4 chambers for a new residential septic system. (Photo by Mark Hirsch)

6 Editor's Notebook: Make Sure Customers Have Happy Holidays

In the spirit of the season, help onsite system owners avoid overloading issues when friends and family fill the house.

By Jim Kneiszel

8 @onsiteinstaller.com

Be sure to check out our exclusive online content.

16 Rules and Regs: The check's in the mail for some Maryland residents who schedule septic cleaning

By Doug Day and Sharon Verbeten

18 WWETT Spotlight: Improving Tank Access

The Claw from Amthor International is designed to make locking rear-opening vacuum tanks safer and more efficient.

By Craig Mandli

20 Basic Training: Go With the Flow

You've decided to incorporate flow equalization principles in an onsite system. The next step is knowing how to tweak the design and operation for optimal results.

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

26 System Profile: A Desert Oasis

Westar Plumbing Services installs a massive evaporative system for an RV park on the California-Arizona border, bringing value to a barren, dried-up river bottom.

By David Steinkraus

30 Shop Talk: Yuletide For Your Toolbox

Check out these holiday stocking stuffers for the mechanics on your crew.

By Ed Wodalski

32 State of the State: Two Heads Are Better Than One

In New Mexico, separate onsite wastewater trade groups work together to bolster the state's system maintenance requirements for the good of the industry and system users.

By Doug Day

34 Product Focus: Business Diversification — Pumping and System Maintenance

By Craig Mandli

38 Product News

40 Industry News

42 Associations List

Coming Next Month: January 2015

ISSUE FOCUS:

WWETT Pre-Show Issue/Exhibit Preview

- **Contractor Profile:** New Jersey installer uses creative marketing
- **State of the State:** What's new in Florida?

Get Social with *Onsite Installer*



www.facebook.com/OnsiteInstaller

www.twitter.com/OnsiteInstaller

www.plus.google.com

www.youtube.com/OnsiteInstaller

www.linkedin.com/company/onsite-installer-magazine



Presby Environmental

The Next Generation of Wastewater Treatment



BOOTH 6001

Advanced Enviro-Septic® (AES)

- ✓ Passive Non-Mechanical Process
- ✓ Proven and Reliable Track Record
- ✓ Treatment and Dispersal
- ✓ Affordable



SPD & CTD Models Certified to NSF/ANSI Standard 40, Class 1



BQ Certified: HQ 3690-910



European Conformity



"An innovative, cost-effective and environmentally-friendly wastewater treatment system."

~The Guardian Newspaper, 2014

Find out why so many Designers and Installers rely on AES

www.PresbyEnvironmental.com • 800-473-5298

advertiserindex

DECEMBER 2014

COMPANY PAGE

	Alita Industries, Inc.	36
	Bio-Microbics, Inc.	29
	BrenLin Company, Inc.	7
	Crest Precast, Inc.	28
	Dalmaray Concrete Products Inc.	43
	Eljen Corporation	21
	Franklin Electric	2
	Fuji Clean USA, LLC	21
	Infiltrator Systems, Inc.	3

COMPANY PAGE

	InviziQ 15
	Jet Inc. 19
	MACBlowers 43
	Norweco, Inc. 9
	Polylok, Inc. / Zabel 44
	Presby Environmental, Inc. 5
	RotoSolutions, Inc. 38
	Salcor Inc. 19

COMPANY PAGE

	See Water Inc. 7
	Septic Products, Inc. 40
	Septic Services, Inc. 8
	Septronics, Inc. 28
	Sim/Tech Filter Inc. 43
	Simple Solutions Distributing 43
	SJE-Rhombus® 37
	T&T Tools, Inc. 41

COMPANY PAGE

	The Dirty Bird 43
	Tuf-Tite Inc. 17
	Wieser Concrete Products, Inc. 33

Get Email News Alerts for

onsite installer™

www.onsiteinstaller.com/alerts

Feedback

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

Make Sure Customers Have Happy Holidays

In the spirit of the season, help onsite system owners avoid overloading issues when friends and family fill the house

By Jim Kneiszal



As an onsite system installer, you can predict when you might get complaints about your craftsmanship ... and hear a few choice words from a customer whose system isn't working to its full potential.

The first opportunity is probably right after the new or replacement system is brought online. There may be a glitch or two and you might be called out to tweak the operations to get it working optimally.

Another occasion for raising the ire of customers is a year or two into system use, after overloading or abuse has taken its toll. Then it's time to reassure the end-user about the system's design capabilities and ask if water usage has changed dramatically of late ... maybe triggered by a teenager taking skin-pruning showers every morning.

If they're calling in December, it's not likely to pass along their holiday cheer! Rather, it could be a befuddled homeowner, like the character Clark Griswold, from *National Lampoon's Christmas Vacation*, calling because the toilet isn't flushing so well anymore ... and that his 27 visiting relatives need to use the bathroom.

When the dirty clothes pile up, announce that everyone is taking a field trip. Make an afternoon of driving to the nearest laundromat and popping a sack of quarters into a few of those giant-capacity machines. This will take a lot of pressure off of an onsite system.

WHAT WOULD MISS MANNERS DO?

It is with this image in mind that I was so interested in a recent column by Rick Meade in Maine's *Portland Press Herald*. Meade wrestled with the notion of warning city dwellers visiting his country home to go easy on his well and septic system lest he suffer an expensive failure. He rightfully noted that people used to the blissfully endless flow of a municipal water and sewer system wouldn't give a thought to water conservation when they stay at his house for extended periods.

"Day in and day out, they use gallons and gallons of water, then it just disappears with nary a concern. ... Understandably, they've been brought up oblivious to the link between supply and demand; the ability to deliver and capacity to remove," he wrote. "Seriously, when visitors arrive, how can we

broach the topic of our septic functions in a way that is clear, descriptive and undeniable but not off-putting? 'Pass the potato salad please, and that reminds me, did I ever explain how our septic system operates?'"

Meade's is no doubt a conundrum faced by millions of septic system users across the country this time of year. These people are your customers, those for whom you designed and installed an onsite system, or those who trust you to inspect and maintain functioning systems. It seems to me that part of the maintenance program is giving customers ideas on how to educate their holiday guests who are uninformed on the proper use of septic systems.

So how about a few pointers to ensure customers don't invite you to their next holiday gathering? Here are a few, and feel free to send your ideas to add to the list for next year.

Provide house rules

In his column, Meade dismissed the idea of posting a sign in the bathroom to announce water usage rules. I say, "Not so fast, Rick!" When it comes to protecting your septic system, I think clearly stated rules are in order. Would the list include the old saying, "If it's yellow, let it mellow"? Maybe you don't want to put it in those terms, but you can encourage visitors to limit their flushing. Let them know it's not OK to leave the water running while shaving or brushing teeth. Explain that only toilet paper and bodily wastes get flushed, and not wipes or chemical cleaners or unused medicines that may harm the onsite system.

Put a timer in the shower

If the extended family is coming for a week, it's OK to sit them down and explain the loading limits of a septic system. If eyes glaze over and it doesn't seem like the information is registering, tell visitors there's a kitchen timer in the bathroom and they should set it for five minutes before stepping into the shower. If they balk, paint a verbal picture about what conditions will be like when the tank overloads and nobody will be able to use the bathrooms for a few hours or days.

Hit the laundromat

If guests stay long enough to require clothes washing, you might think they've worn out their welcome. But we love our family and friends and enjoy their company for extended periods, right? Encourage them to combine their dirty laundry with yours to make full loads and to do the laundry when other



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

Are you tired of using risers that are too tall or too short for the job you are completing?

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

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

BrenLin Company, Inc
Manufacturers of Seal-R™ Products
888-606-1998 • www.seal-r.com

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

RISER: Dual-wall plastic culvert pipe.

Inner safety lid.

wwett BOOTH 5100

water usage in the house will be low. Or when the dirty clothes pile up, announce that everyone is taking a field trip. Make an afternoon of driving to the nearest laundromat and popping a sack of quarters into a few of those giant-capacity machines. This will take a lot of pressure off of an onsite system.

Watch the dirty dishes

Holiday meals can leave a big mess in the kitchen. Serve a big enough crowd and you'll use all your dishes and utensils. Tell customers to do what they can to stagger dishwashing or come up with other ideas to slow the flow down the kitchen sink. Some dishwashers have special "eco cycles" that use less water, or delay timers so dishes can be washed in the middle of the night when there's little other water usage. How about going out to dinner a few times? Let the restaurant clean up after the crowd. Or put away the silver and fine china. Every meal doesn't have to be the way grandma made it back in the day. It's surprising how little water is used when you bring home a bucket of chicken and a pizza.

Provide a portable restroom

Do you live in Florida or Arizona? Lucky for you; no snow to shovel. In your temperate climate, septic owners could rent a portable restroom for the backyard and have outdoor party guests use that instead of bathrooms in the house. Because portable restrooms don't use as much water as a toilet, this could be promoted as a "green" alternative and every time a guest makes that choice, they're helping the environment.

A SERIOUS MESSAGE

Am I joking around with some of these suggestions? Sure. But there is a serious message to convey. You are an onsite system professional, and it's important for you to clearly explain the operating limitations of systems to your customers. While some homeowners listen to you and educate themselves about how to properly use their systems, many do not. And you are providing a service by reminding them that systems are especially vulnerable to overuse this time of year. If you save one joyous family reunion from turning into a septic disaster, these reminders have made a difference. □

**CHECK OUT PRODUCT &
CONTRACTOR VIDEOS ONLINE!**

www.onsiteinstaller.com/video

SEE WATER
Inc.

Protecting the
Environment
since 1995

Your Trusted Source For Pump Control Panels



wwett
BOOTH
5648

- Simplex and Duplex control systems
- On-site accessories
- Demand or Timed Dosing models
- Made in the USA

UL c UL US SP CE | www.seewaterinc.com | Phone: 888-733-9283

Wishing you
peace and
prosperity
this holiday season
and throughout
the new year.



SEASON'S GREETINGS FROM
YOUR FRIENDS AT COLE PUBLISHING



Over 30 years experience

SEPTIC SERVICES, INC.

SEPTIC SYSTEM PUMPS, PARTS AND SUPPLIES STORE

TO ORDER



SHOP ONLINE

CALL TOLL FREE: (800) 536-5564

www.septicserv.com/store
(636) 583-5564

Introducing
Spring 2014

Model
Shown:
RA4 1.0YF

RETROAIR

Available in 4
models to match
your application



The Retro-Air provides a complete absorption field rejuvenation system that will improve flow and return a failed existing system back to optimal flow and performance. Use in systems prone to backup in the tank.

- ✓ Improve Flow
- ✓ Eliminate Clogged Absorption Field Due to Biomat
- ✓ Install in Single or Multiple Tanks

Starting at
\$564.00



MAXAIR500

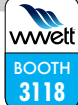
MAXAIR500 SUBMERSIBLE SEPTIC AERATOR

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

\$425.00
2-YEAR WARRANTY

Replacement for Multi-Flo Aerator

All original equipment manufacturer's names, drawings, and part numbers are used for identification purposes only, and we are in no way implying that any of our products are original equipment parts. Not associated with Multi-Flo or Consolidated Treatment Systems.



BULLET™ HIGH HEAD FILTERED EFFLUENT PUMPS

18-Month Warranty

All stainless steel construction built for years of dependable service

- 1/2 HP, 10 amp motor
- Prewired
- 15-foot power cord

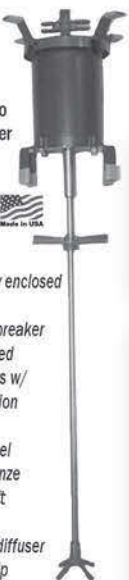


Models:
BP12 (12 gpm) ... \$280.00
BP20 (20 gpm) ... \$272.00

FLAGG-AIR 340HT AERATORS

Flagg-Air New High-Torque Performance

We've increased motor torque and adjusted shaft length to provide greater aeration.



FEATURES:

- Motor is fully enclosed
- Prewired
- 7-amp mini-breaker
- Powder coated steel brackets w/ rubber vibration restrictors
- Stainless steel shaft w/ bronze counter shaft
- High impact plastic suds diffuser & aspirator tip

\$350.00
2-YEAR WARRANTY

Does not carry the NSF seal. Check local and state regulations for approval in your area.



AERATORS

Superior choice for new installation or upgrading existing 60/80/100 models.

2-Year Warranty

Whirlwind Linear Air Pumps

Models:
STA60N ... \$220.00
STA80N ... \$250.00
STA100 ... \$340.00



*"N" models include hose bib for low pressure alarm connection.



Whirlwind STA80AL Linear Air Pump

Integrated audible alarm & warning light with toggle testing switch. 2-Year Warranty

STA80AL ... \$320.00

ALARMS • TIMERS CONTROLS



Model:
P101FA-2
\$105.00

- Warning light & reset switch
- Mini-breaker

Model:
P101-2
\$95.00

REGENERATIVE BLOWERS

18-Month Warranty



Whirlwind
R-5760 ... \$400.00
(57 CFM)

@onsiteinstaller.com

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



TAKE CONTROL

3 Ways to Maximize Your Fleet

Day-to-day fleet management can be a headache. Streamline your system with GPS fleet tracking platforms that will help you track fuel costs, equipment replacement and maintenance schedules.

onsiteinstaller.com/featured



OPTIMAL PERFORMANCE

Devices Every Installer Needs

Don't forget to set the alarm! Minimize frantic emergency calls and detect problems before they happen with the latest control and monitoring devices.

onsiteinstaller.com/featured

Overheard Online

"You won't have a clue as to how much you need to charge if you're just guessing at your costs."

—Do You Know How to Price a Job?

onsiteinstaller.com/featured

PROTECT WATER QUALITY

Easy Onsite Erosion Control

Disturbing as little soil as possible during an installation is a no-brainer. But normal soil erosion can cause headaches. Learn what you can do to reduce major water flow.

onsiteinstaller.com/featured



emails and alerts



Visit 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

want more?



Find us on Facebook at
facebook.com/OnsiteInstaller
or Twitter at
twitter.com/OnsiteInstaller

New Products and Innovations

norweco[®]

Engineering the future of water
and wastewater treatment

Hydro-Kinetic[®]

- ◆ Unmatched Effluent Results
- ◆ 2 mg/L CBOD, 2 mg/L TSS, 8 mg/L TN
- ◆ NSF/ANSI Standards 40 & 245 Certified



Hydro-Kinetic[®] Bio-Film Reactor

- ◆ Reduces BOD and Solids
- ◆ Durable, Watertight, HDPE
- ◆ No Electricity Required



Enviro-C[®]

- ◆ Vitamin C Dechlorination Tablet
- ◆ Fast and Effective
- ◆ Non-Toxic to Fish and Other Aquatic Life



Phos-4-Fade[®]

- ◆ Phosphorus Removal Tablet
- ◆ Eliminates Algae Blooms
- ◆ Cost Effective Treatment for All Flows





FARM AND HOME

Bob Tiedt's old-line Iowa agricultural drainage company turns to onsite work and finds a valuable niche to keep busy during a slow portion of the growing season

By Dee Goerge

Bob Tiedt has been working with soil and drainage issues through his family's longtime agricultural tile business. About a decade ago, the owner of Bob Tiedt Drainage Inc. came to the conclusion that his farm drainage background would translate beautifully to the onsite industry.

So the Waverly, Iowa, company – recently celebrating 60 years in business – is building a solid reputation in the onsite business like it did serving generations of farmers across the fertile fields of northeast Iowa.

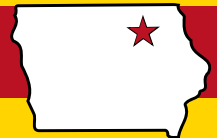
A year ago, Tiedt, 33, took over ownership of the business from his father, Jim. Tiedt and his wife, Dana, who handles the accounting and office work, hope to continue to build the business and one day pass it along to their children, Macy, 7, and Jake, 4.

TRANSFERRING SKILLS

“When I was 10, I was on the tiling job – learning. It’s in my blood,” Tiedt says. Tiling agriculture land has been a good business for the Tiedt family since 1953, when Tiedt’s grandfather, Paul, started the business. Jim took over the business in the 1970s and Tiedt started working full time in 2000.

“Dad didn’t want to deal with the septic systems, but starting in 2000, I started pushing him to get the name started with the septic system,” he says. “With the farm drainage end of it we’re limited. We needed something to fill in that time frame.”

Bob Tiedt Drainage, Inc., Waverly, Iowa



OWNER:	Bob Tiedt
FOUNDED:	1953
EMPLOYEES:	5
SERVICE AREA:	Northeast Iowa, 100-mile radius of Waverly
SERVICES:	Onsite systems, sewer jetting, agricultural drain tile
WEBSITE:	www.tiedtdrainage.com

Tiling work is done from about mid-March to mid-May until the crops are in, then it’s on hold until about mid-September after the harvest. While Tiedt gets some residential tile draining work, he recognized the need to diversify and balance the income – especially when agriculture has a downturn. His skills are ideal for onsite installation, he says.

“I have a very, very good understanding of drainage characteristics of

<<Opposite Page: Tiedt Drainage employees use a John Deere backhoe and skid-steer to cover a drainfield after installation of Infiltrator Systems Quick 4 components. (Photos by Mark Hirsch)



ABOVE: Bob Tiedt sets up a Spectra Precision laser level receiver to measure depth for a septic installation project.

RIGHT: T.J. Kofron, left, and Luke Brown connect pipe to a concrete distribution box during a system installation.



the land,” he says. “A basic septic system is still drainage. In farm fields you are out-letting the water into a ditch or stream. In the septic side of it, you’re cleaning the water with the soil. My knowledge of drainage in farm fields helps to lay out a system in a yard or in a lot. I feel I have an edge on that just because of what we do [draining fields].”

“Dad didn’t want to deal with the septic systems, but starting in 2000, I started pushing him to get the name started with the septic system. With the farm drainage end of it we’re limited. We needed something to fill in that time frame.”

Bob Tiedt

KNOW THE CODE

Understanding soil is also important. Having dealt with a variety of soils when tiling, Tiedt goes by how soil feels as much as how it percs. For example, with recent dry years, some soils perced OK, but Tiedt considers the soil’s texture and how it will saturate in a wet spring. In many cases, he adds footage to the leachfield to prevent problems.

Experience is important, but Tiedt knew there was much to learn about septic installation. He took classes to earn CIOWTS (Certified Installer of Onsite Wastewater Treatment Systems) certification and Time of Transfer Inspector credentials to inspect systems.

“The classes and certifications really got me looking in-depth into the code. I get a kick out of having the code knowledge and being out on the job and not having to have to say ‘I need to check the code,’ ” Tiedt says. “I read

the entire code. I enjoy knowing that. I know it and I understand it, and I can see why they have us doing what we are doing.”

Knowing code is important because many homes in Tiedt’s service territory are built on lots with limited space. For example, a 3,000-square-foot home on a half-acre lot doesn’t leave much room for a conventional septic system. That’s where it pays to understand codes to install advanced systems.

ADVANCED SYSTEM SPECIALTY

“I really enjoy the challenge when a secondary system is needed,” Tiedt says. They come up quite often when systems have to be installed in a small footprint or when the soil doesn’t meet the perc test. Other installers who don’t like installing them sometimes refer the work to Tiedt.

The systems approved in Iowa pump the effluent from the septic tank across bacteria-laden media (peat, plastic, foam). As the water disperses, it’s filtered and cleaned so the water can be safely discharged on the ground.

“I can treat the waste from a six-bedroom house in 120 square feet,” Tiedt says. “A conventional system would have a 5,000- to 6,000-square-foot area for a leachfield.”

He uses systems from Quanics Inc.

“I stick with them so I know everything about the product,” Tiedt says. “I call in and describe the situation, like a five-bedroom house or a church with so many members. They design a system that’s stamped with approval by their engineers and I install to their recommendations.”

The systems incorporate a three-compartment tank, two for settling solids and a third for pumping effluent into an Aerocell unit that disperses

it over a foam media. Tiedt used the system effectively for a house with a tiny 10- by 20-foot yard. The property was part of a housing addition with a failed lagoon system. The state's Department of Natural Resources informed homeowners they needed to install individual systems.

“Everyone had to have their A-game on and worry about each other, utilities and neighbors’ property lines. We had to worry about everything.” Working with the county to approve extra room on the property line setbacks, his crew installed the Quanics system that covered the entire front yard. He gave the homeowners the option of a mound or level system. They chose a level system with plans to landscape to hide the risers.

“In our area you won’t beat word-of-mouth [for advertising]. We aren’t the cheapest contractor around. But I will guarantee quality, and I will do what I say.”

Bob Tiedt

HELPFUL TOOLS

For agriculture tiling, Tiedt uses the latest RTK technology to accurately install tile, but he uses older Trimble-based laser technology for installing septic systems. He is a big fan of the latest smartphone technology, however.

“I can be on a job site, look at the system and call the Bremer County Sanitation Department, which has scanned-in septic maps. Within 15

minutes I have a map of the system on my smartphone,” he says.

Tiedt owns an assortment of excavation equipment to accommodate large jobs as well as working in tight spaces. A 2001 John Deere 17ZTS mini-excavator works well for septic inspections, while a 2001 Bobcat 331E mini-excavator is ideal for digging small, shallow septic systems.

For large jobs, his John Deere backhoe fleet includes a 2007 310SJ TMC and a 2012 310SK TMC. His 2005 322 CTL John Deere skid-loader comes in handy for a variety of jobs.

Tiedt also has 1996 Mack and 2001 Sterling trucks, along with a few Dodge pickups and an old dump truck and dump carts.

He installs septic tanks manufactured by Swales Precast Inc., risers from Polylok and buys components from Infiltrator Systems Inc. Cedar Rapids Winpump provides the pipe. A laser level from Spectra Precision helps properly install the systems.

BIGGER IS BETTER

“In our area you won’t beat word-of-mouth [for advertising],” Tiedt says. “We aren’t the cheapest contractor around. But I will guarantee quality, and I will do what I say.” He knows the importance of building a good reputation from experience in the ag tiling business and farmers know the Tiedt name. Getting a new group of people – homeowners – to know the name is a new challenge.

“There are a few contractors that are very reputable, who are getting closer to retiring,” he notes. “I want to get my name built up, so when they



Agriculture tiling basics

Bob Tiedt already owned excavators and backhoes before becoming an onsite installer. They were used by his family's field tile installation business. Backhoes dig holes to make tile connections, push holes shut and bury rock. The mini-excavator works well in tight quarters around buildings for drainage work. With septic installation, the equipment has become multipurpose for both businesses.

One piece of equipment used exclusively for agricultural tile is the Wolfe self-contained drainage plow, which installs tile using RTK grade control. Brady Kolbet of Mid-Tech Services Inc. in New Hampton, Iowa, provides reliable service to keep the GPS technology up-to-date, Tiedt says. His family has used Prinsco drainage tile for at least 30 years.

Farmers use tiling as a management tool to improve crop productivity with better water control, soil aeration and the ability to get in fields sooner. In northeast Iowa, fields are typically tiled every 30 to 60 feet with 4-inch lateral tile that tie into main (5- to 12-inch tile) lines to drain. The plows cut into the ground, place the tile at the correct grade and fill the soil back in place in one process.

Tiling benefits a variety of soils from sand to clay, and Tiedt says his experience with a wide variety of soil and field conditions has been a good background for onsite work.

His time on excavation equipment has also paid off in competitions. He competed and finished in seventh place at the National Onsite Wastewater Recycling Association Roe-D-Hoe competition at the 2013 Pumper & Cleaner Expo (now WWETT).

phase out, [their customers] will know my name. I feel that will help my business.”

He's hopeful that his past customers will spread the word, but he's not leaving it to chance. He recognizes the importance of advertising.

“When I have an ad company come to me – like phone books – I ask them to open the book to see who is in there and what the ads look like. I order



The crew at Tiedt Drainage includes, from left, T.J. Kofron, Bob Tiedt, Luke Brown and Perry Sauerbrei.



The Tiedt Drainage crew takes delivery of a Swales Precast Inc. septic tank and Polylok risers for a onsite project.



The crew of Perry Sauerbrei, Luke Brown and T.J. Kofron install Infiltrator Systems Quick 4 chambers.

bigger ads to attract attention and stand out in some way,” Tiedt explains. “But I absolutely refuse to put another company’s work down.”

He also maintains a professional website created by John Unsen Design. Unsen is a friend who drives new marketing ideas for Tiedt. Some of them are effective, including a Facebook page and a contact form on the website. This has helped boost the onsite side of the business.

DIVERSIFY FOR THE FUTURE

With pumped up marketing and word-of-mouth, Tiedt hopes to greatly increase the number of installations. Onsite is still a smaller part of the business, but it’s growing and Tiedt has started a sewer-jetting service.

“Last winter we did sewer jetting for 20 to 25 systems that froze up,” he says. “It’s been a long time since we’ve had frost 5-7 feet in the ground.”

Designing for frost is a challenge, and a couple of his systems also froze because they were new and bacteria hadn’t had a chance to grow to keep the tank warm.

“The biggest thing we saw was problems from lines freezing going to the tank. High-efficiency furnaces have drainlines that have a small amount of water going down sewer lines and it starts to freeze. The mini freezing in micro layers produce big layers and an ice dam in the line holding the water back,” Tiedt says.

Like good field drainage, it’s important to set an adequate grade on the discharge line, he notes. And using hay or straw bales to insulate the ground over the system has also proven a good strategy for homeowners during cold winters, he says.

With certifications in four counties and licensing to do inspections, Tiedt is ready to keep himself and his crew busy between agriculture tiling work. And he’s up for the challenge of dealing with any tough job or utilizing any advanced technology on the horizon.

“I’m not scared of any project,” Tiedt says. “I can do everything from large commercial to a one-bedroom house. I’m just getting going.” □

MORE INFO:

Bobcat Corporate
800/743-4340
www.bobcat.com

Infiltrator Systems, Inc.
800/221-4436
www.infiltratorsystems.com
(See ad page 3)

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

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

Quanics Inc.
877/782-6427
www.quanics.net

Spectra Precision/Trimble
800/527-3771
www.spectralasers.com



It's dry at the top.

InviziQ™ is changing the way people view pressure sewer systems. Our innovative engineering includes the industry's first and only Dry Well design, coupled with a reliable solid-state level sensor and intuitive control system. We developed our intelligent PSS with performance, reliability, durability, control and value built into every unit.

Learn more at www.inviziq.com



InviziQ offers Dry Well design, the first and only PSS alternative delivering clean access to the system motor and other working parts of the unit.



Smart under pressure.

The check's in the mail for some Maryland residents who schedule septic cleaning

By Doug Day and Sharon Verbeten

To encourage septic tank owners to properly pump their systems, Charles County is now reimbursing them. To help meet its nutrient load reduction targets of the multi-state Chesapeake Bay restoration program, the county has a goal of pumping 20 percent of its septic systems annually. It encourages people to schedule pumpouts every three to five years and residents can only get reimbursed every three years.

The county will send a check to system owners once the work is verified, reimbursing up to 50 percent of the cost for most homeowners and up to 75 percent for those in the Chesapeake Bay Critical Area Boundary (within 1,000 feet of tidal waters). The maximum reimbursement, however, is \$187.50.

In Calvert County, the Bay Restoration Fund has provided another \$1.2 million in grants for new septic tanks and system upgrades for residents. Since 2006, the state's "flush tax" has provided money to replace 462 systems in the county, with another 80 or 90 planned. The county is among the highest recipients of state grant money, having received \$6.4 million since the program began in 2004.

People with incomes up to \$300,000 a year are eligible for full funding, though the grants are prioritized based on criteria including location near sensitive waters. Replacing metal tanks is a priority for the county.

CALIFORNIA

By 2020, nearly every truck in California will be required to have a particulate matter (PM) filter, with the phase-in period already underway. Any vehicles retrofitted with PM filters by 2014 will still need to be replaced in 2023.

The regulations date to 2009 legislation covering diesel trucks and buses, public and private, with a gross vehicle weight rating more than 14,000 pounds. According to the California Air Resources Board, they required newer, heavier trucks and buses to meet PM filter requirements beginning January 2012. Lighter and older heavier trucks must be replaced starting January 2015. By 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent.

Some relief was made available in the spring when a few requirements were amended, but Alvin Urke told *The Union* newspaper his excavation and septic business has two trucks, one a 1979 model and the other from 1991. He said it will cost him \$20,000 to \$40,000 a year to stay in compliance until 2020, when it will cost him up to \$200,000 to buy a new truck. The new exemptions will allow Urke to run his trucks without the filters, but only up to 5,000 miles a year.

MAINE

Maine now has a law regulating odors from companies that compost septage and municipal biosolids. The Department of Environmental Protection has finalized the rule, established in response to a 2013 law passed by the Legislature.

The original odor limit was 25 parts per million, but the final rule sets the limit at 300 ppm for more than four hours per month, or 600 ppm for three hours a month using an n-butanol odor intensity scale developed by the state.

The only company in the state doing such work, Soil Preparation Inc. in Plymouth, has until March 2015 to comply with the law. The firm says it is investing more than \$10 million into gasification technology to reduce odors that have generated complaints. The company accepts biosolids and septic waste and makes an organic fertilizer for non-food crops.

WASHINGTON

New standards have been proposed for residential onsite systems in shoreline areas of Spokane County. The standards are part of a limited amendment to the county's existing shoreline program to reduce nutrients released to the groundwater.

The proposed amendment also calls for the drainfield portion of onsite systems to be located outside shoreline areas whenever possible. When lot boundaries limit the location of onsite systems to within shoreline areas, the systems must meet strict design, performance and maintenance standards, including monitoring.

WISCONSIN

A state panel approved spending \$337,000 to replace the septic system for Mirror Lake State Park near Wisconsin Dells. The system has failed due to being undersized for the 2,180-acre park. The Department of Natural Resources has received reports of untreated sewage above ground near the trailer dump station.

A new drainfield will be installed across the road from the current location and sized to accommodate 50 recreational vehicles daily. The park's vehicle maintenance shed used to drain into the septic system, but such a design no longer complies with groundwater regulations. A holding tank will be installed for the vehicle shed, which will be pumped out and hauled off for treatment. □

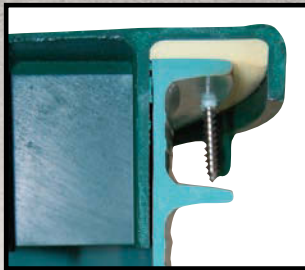
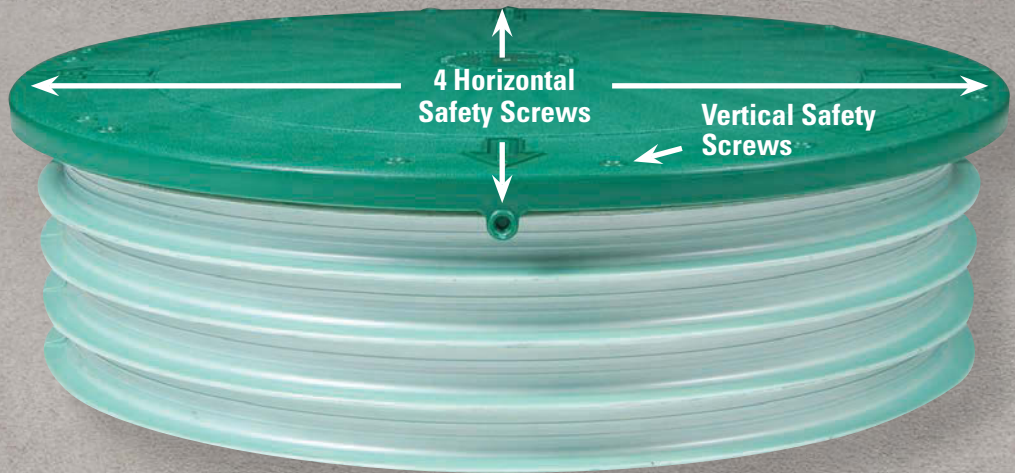
24" HEAVY DUTY MULTI-PURPOSE FLAT RISER LID

**FREE FREIGHT
 on Full Cartons!**

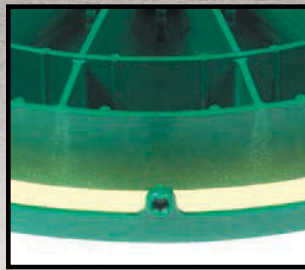
**Fits most commercially
 available:**

- 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 Includes Filter, Housing and

4" Sch. 40 & SDR-35

NSF®
 800 GPD
 ANS/NSF
 Standard 46

NSF®
 COMPONENT
 ANS/NSF
 Standard 46

EF-4 Combo 18

NSF®
 COMPONENT
 ANS/NSF
 Standard 46

TB-4-18 Housing
 12/carton

SD-4
 Gas/Solids Deflector

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

4" Sch. 40 & SDR-35

NSF®
 1500 GPD
 ANS/NSF
 Standard 46

NSF®
 COMPONENT
 ANS/NSF
 Standard 46

TB-6 Housing

Gas/Solids Deflector

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

Improving Tank Access

The Claw from Amthor International is designed to make locking rear-opening vacuum tanks safer and more efficient

By Craig Mandli

Opening the rear door on vacuum trucks often puts pumpers in a precarious position, balancing on a small and often slippery pedestal to unlock several clasps around the diameter of the tank. Not with the Claw.

The Claw, unveiled by Amthor International at the 2014 Pumper & Cleaner Environmental Expo International, is a series of hydraulic arms to open and close the rear door on vacuum trucks, eliminating the use of wing nuts along the top and sides. Designed for safety and efficiency, the mechanism is Amthor's response to customers asking, simply, is there a better way?

"No longer does the driver have to climb 13 feet on top of the tank to tighten down the rear door," says Butch Amthor, the company's executive vice president. "All he has to do is pull a lever and the arms extend and reach out to release or pull the door tight."

Amthor's Claw design can be used on any code or non-code vacuum tank. It increases driver safety and saves money on unnecessary tank repairs due to incorrect operation. "It can be retrofitted on all our tanks already out on the market," says Amthor. "We designed it to be installed on any rear-opening vacuum tank."

The hydraulic lever on the back of the vacuum truck is easy to latch and unlatch, and achieves a strong, tight seal on the tank. "It's a much tighter seal than any human can provide manually," says Amthor. "The Claw locks past center and even if pressure is lost or the cylinder fails to operate, the latch will not be loosened."

The idea was launched about six months before the Expo, in response to customer recommendations. Amthor heard so many stories of pumpers losing their balance and falling off trucks while unlocking or locking their vacuum tanks. He decided it was time to come up with a solution to combat the problem. In addition to the safety and efficiency benefits, the Claw is constructed in accordance with ASME DOT 407/412 code for highway travel.

"These workers operate in some very slick conditions when they're on the job site, and they take a risk every time they climb up and down the rig," says Amthor. "The Claw eliminates a lot of that risk, because the operator can stand on the ground and operate the system with one lever. He doesn't have to climb anywhere."

The company decided to unveil the new product at the 2014 Expo in large part because of the huge target demographic walking the show floor.



Butch Amthor, executive vice president of Amthor International, presented the company's newest innovation, the Claw, at the 2014 Pumper & Cleaner Environmental Expo International. (Photo by Cory Dellenbach)

Amthor says he was able to talk to hundreds of potential customers that were impressed with the company's products and focus on worker safety.

"The Expo is the perfect place to roll out a product like this; where else are you going to be able to get it in front of thousands of customers?" he says. "We have marketing ready to send out to our existing customer base saying that the Claw is available on all new vacuum tanks and can be retrofitted to the tanks they already have. I'm very optimistic that this will be accepted by the industry."

As for future shows, Amthor says he's already working on some new products and innovations to bring back to Indy in 2015, when the Pumper & Cleaner Environmental Expo International becomes the Water & Wastewater Equipment, Treatment & Transport (WWETT) Show.

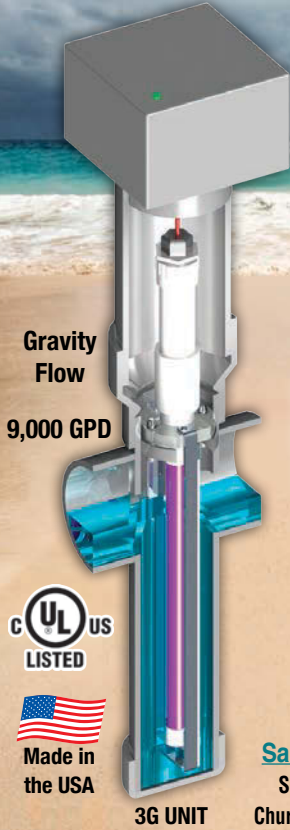
"This year the Claw was something we came up with that was completely different for the industry," says Amthor. "My mind is thinking about this 24/7. There are already some ideas kicking around." 800/328-6633; www.amthorinternational.com. □

Ultraviolet Leader Since 1978

wwelt BOOTH 3000

SALCOR UV ONSITE DISINFECTION

Proven Water Recovery/Reuse



Gravity Flow
9,000 GPD



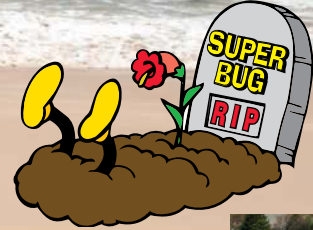
Made in the USA

3G UNIT



Residential & Commercial
3G Arrays to 100,000 GPD

- » Ultimate Health and Environmental Protection
- » Most Third Party Tested & Approved
- » Onsite Residential, Commercial & Municipal Uses to 100,000 GPD
- » Low Cost, Easy Installation & Minimal (Annual) Maintenance
- » UL Certified "Floodproof," NEMA 6P
- » NSF/Wash State 6-Mo Fecal Coliform Tests with 20 ATU Models



INACTIVATES "SUPERBUGS"

SURVIVES Most Weather Disasters



Hurricanes, Floods, Storms

Salcor's Market-Leading Onsite Disinfecton UV Sucessfully Treats:
Single & Cluster Homes, Small Sewage Plants, Schools, Hospital/Nursing Homes, Churches, Restaurants, Mobile Home Parks, Campgrounds, Nurseries, Houseboats, etc.



PRESERVES Sensitive Environments!

Salcor Inc. • 760.731.0745 • F: 760.731.2405 • jsruver@aol.com Duke's Malibu Oceanfront Restaurant

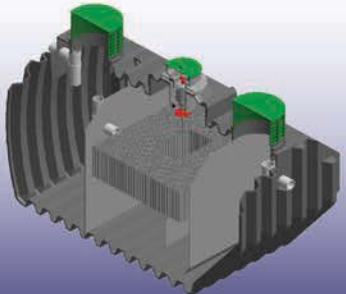


- Accu-Tab® Wastewater Tablets**
- U.S. made, recognized global brand with no imported ingredients
 - Chlorine tablet with beveled edges to minimize wicking
 - Consistent chlorine strength for reliable dosing control
 - No measuring, mixing, or spilling of chemicals common with granular and liquid chlorine
 - 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



wwelt BOOTH 2275



- 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



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

Go With the Flow

You've decided to incorporate flow equalization principles in an onsite system. The next step is knowing how to tweak the design and operation for optimal results.

By Jim Anderson and David Gustafson

Last month we discussed the reasons for employing flow equalization as a way to manage systems. The purpose is to moderate peak flows and spread use of the system out more evenly over time. This can be done on a daily or weekly basis depending on how the system is used. There are two primary benefits: improving the treatment efficiency of any downstream units and helping prevent system overloads that can ultimately damage the final soil treatment component.

There are two design approaches, depending on the situation, for using flow equalization to improve system operation and efficiency.

TWO APPROACHES

The first is cases where you can look at the actual flow and then design each of the components – including the soil treatment area – according to flow. This is the situation that we would all prefer so the most efficient and cost-effective components can be chosen in terms of the operation and sizing. In this case, the larger peak flows can be accounted for in the design.

The second situation is where there is limited area for final treatment. This reduces the choices and means the system will require additional storage or buffer capacity to remove some of the effluent generated during peak flows. It is important to make sure flow numbers for design purposes should be the actual flows, showing the peaks and variations.

So how do you measure or capture the flow numbers? Using the estimated daily flows based on the number of bedrooms, water-using fixtures, number of people or general estimates for various establishments is the least desirable method. These figures are based on averages and while it may be the “best” guess, it is still that: a guess. Water meters can be installed and monitored, but that raises questions about whether all of the water actually gets delivered to the system.

The ideal solution is measuring where the pump delivers the effluent to the next downstream component. This gives the most accurate reading of actual flows and offers the most information for system management going forward. This requires installing a pump-cycle counter and an elapsed-time meter. The counter counts the times the pump turns on and off, and the time meter tells how long the pump runs during the time interval selected.

Using these methods requires the pump delivery be calculated, which is simply done by running the pump to the system, pumping out a known quantity of effluent over a set time period and then dividing the quantity pumped by the time to obtain the rate.

TIME DOSING

Flow equalization requires use of a timer. In a time-dosed system, the timer is set to run a pump for a certain amount of time on and off and logs the cycles. This gives a record of daily flows that can be tracked over time and adjusted to manage the flows. A programmable logic unit or computer is used to control and track the times. Computers give more management options. The system requires on and off floats or sensors, as well as floats or sensors for high- and low-water alarms and usually a redundant off feature.

Timed-dose systems often incorporate a manual override feature. This is a bad idea, leading to homeowners consistently tripping the override rather than having the problem fixed, which then leads to problematic system overloads.

Effective flow management requires a control panel to track the number of doses or times the pump runs. In addition, pump-off events should be tracked to inform the service provider if the predetermined flow was set higher than the actual amount of flow. Alarms should be tracked to indicate if initial flow estimates were too low.

Please note: If you are working with a demand system, you can add an hour meter to provide much more information about how the system works. This will give an accurate picture of flow, allowing you to make better-informed decisions about the cost-effectiveness of changing system components to achieve better equalization.

An hour meter can be added to systems where the typical piggyback method is used to plug into the floats and pump. Adding an hour meter is a simple, inexpensive way to determine flow and peak flow. If you want to know the peak flow, you need to read it every day. It's not uncommon to see an average flow fall far below design maybe one day a month or one day a week. But our peak one-day flow might be twice the design, so you really need to look closely for that peak flow number.

CAUTION: HUMAN ERROR

Another point to ponder when considering flow equalization: Having a

Simple • High-Performance • Wastewater System

Eljen GSF...Your Affordable Treatment Solution For Today's Wastewater Challenges!

- Product Performance Compliant with NSF/ANSI Standard 40 Protocol.
- Dual filtration process provides the performance you require.
- Non-mechanical design means little to no maintenance.
- The most treatment area per foot in the industry.

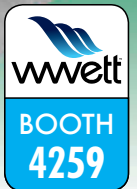


eljen
CORPORATION

Innovative Environmental Products and Solutions Since 1970

1-800-444-1359

eljen.com



GET
**EMAIL NEWS
ALERTS** FOR
**ONSITE
installer**

Go to
onsiteinstaller.com/alerts
and get started today!

timed-dose system protects the system as the pump wears out and the gallons delivered per minute go down. The timer will operate the pump for the same amount of time but it won't deliver the same number of gallons. Eventually this will trigger the high-water alarm and the service provider will know the pump needs attention to prevent a system overload.

Then there is a problem of human error. Timed-dose systems often incorporate a manual override feature. This is a bad idea, leading to homeowners consistently tripping the override rather than having the problem fixed, which then leads to problematic system overloads. □

HAVE A STORY IDEA?

Email us at editor@onsiteinstaller.com



Let's go with a Fuji Clean

Not the most expensive. Just the best.



World's #1 onsite treatment system.

U.S. distributor opportunities available. Call 207-406-2927 or 860-304-6110
41-2 Greenwood Road • Brunswick, Maine



wwett™ 2015

Water & Wastewater Equipment, Treatment & Transport Show

To register or for
detailed information:

wwett.com
866-933-2653

FEBRUARY 23-26, 2015 INDIANA CONVENTION CENTER

This Show is for You

Rebranded 2015 Water & Wastewater Equipment, Treatment & Transport Show promises great value for your utility or business

The 2015 Water & Wastewater Equipment, Treatment & Transport (WWETT) Show is bringing the environmental services industry's best new tools, technology, equipment, educational courses and peer networking opportunities together under one roof. It's a great way for you to help improve your business or utility.

The WWETT Show will encompass all 560,000-plus square feet of exhibit space at the Indiana Convention Center in Indianapolis Feb. 23-26, 2015.

Education Day kicks off the show, with presenters from the industry's top manufacturers and associations leading a wide variety of classes. Learning opportunities extend throughout the week, with educational seminars also slated for Tuesday and Wednesday. You will gain valuable industry-specific knowledge, and WWETT education courses also count toward continuing education credits in many states.

While the educational opportunities are valuable and popular, the show really ramps up on Tuesday when the exhibit hall opens. Every year, products introduced at the show become important components in many industry professionals' toolboxes and equipment fleets. More than 8,700 people representing 3,800 companies attended the 2014 show, with 529 exhibitors nearly spilling out of the exhibit hall.

***Don't miss this opportunity to grow your business.
Attend the 2015 WWETT Show.***



Register by
January 23, 2015

to receive the low-rate of \$60 per person!
\$100 per person at the door. Children 12 and under admitted free.

**Register online at wwett.com
or by calling 866-933-2653**

ONLY
\$60
by
JAN. 23



Education Day Sessions

Monday, February 23, 2015

NAWT

National Association of Wastewater Technicians
Room 234-236

- 8 a.m. | Pre-Trip Inspections
- 9:30 a.m. | Hours of Service (HOS) Overview
- 11 a.m. | Roadside Inspections
- 1:30 p.m. | Environmental Impact Study: Effects of Water Softener on Septic Tank Performance
- 3 p.m. | A Study of Microbiological Induced Corrosion
- 4:30 p.m. | Ask the Expert Q & A

WJTA-IMCA

Water Jet Technology Association
Industrial Municipal Cleaning Association
Room 140-142

- 8 a.m. | Hydroexcavation — Tools to Stay Current in a Changing Marketplace
- 9:30 a.m. | Maximizing Productivity on Vacuum/Air Mover Projects
- 11 a.m. | Waterblast Safety Can Enhance Productivity, Quality and Profits!

SSCSC

Southern Section Collection Systems Committee
Room 231-233

- 8 a.m. | Combination Vacuum Unit Operation Overview
- 9:30 a.m. | Been There, Done That, Got The T-Shirt (Small Business From a Hands-on Perspective)
- 11 a.m. | So You Think You Are the Best? CCTV Inspection In Its Highest Form
- 1:30 p.m. | Avoid the Pitfalls — Trenchless Pipeline Repair and Renewal
- 3 p.m. | NOZZLES, NOZZLES, NOZZLES!
- 4:30 p.m. | Ask the Experts Q & A

SSPMA

Sump and Sewage Pump Manufacturers Association
Room 243-245

- 1:30 p.m. | Sizing Guidelines for New or Replacement Sewage Pumps
- 3 p.m. | Backup Battery and Combination Pump Systems Evaluation and Installation
- 4:30 p.m. | Specifying Pumps: Why Do Pumps Fail?

NASSCO

National Association of Sewer Service Companies
Room 130-132

- 8 a.m. | Overview of Manhole Rehabilitation Technologies
- 9:30 a.m. | When, Why and How to Defeat Infiltration Cost Effectively
- 11 a.m. | New Opportunities in Small-Pipe Relining and Reinstatement
- 1:30 p.m. | Pipeline cleaning Best Practices
- 3 p.m. | Large-Diameter Pipe and Drain Rehabilitation Technologies
- 4:30 p.m. | Ask the Experts Q & A

NEHA

National Environmental Health Association
Room 237-239

- 8 a.m. | New Technologies for Non-Potable Water Use
- 9:30 a.m. | Rules & Regulations with New Technologies and Working with Regulators
- 11 a.m. | New Technologies for Non-Potable Water Use Part 2
- 1:30 p.m. | OSHA Regulations and Smart Business
- 3 p.m. | Sales & Marketing with New Technologies
- 4:30 p.m. | Ask the Experts Q & A

NOWRA

National Onsite Wastewater Recycling Association
Room 240-242

- 8 a.m. | Lobbying
- 9:30 a.m. | Field Inspections Part One
- 11 a.m. | Field Inspections Part Two
- 1:30 p.m. | Septic Tank Safety — Lethal Lids
- 3 p.m. | Time Dosing
- 4:30 p.m. | Ask the Experts Q & A

Portable Restroom Track

Beverly Lewis
Room 243-245

- 8 a.m. | Mastering the Busy Season
- 9:30 a.m. | A Great Customer Experience
- 11 a.m. | Employee Retention and Recruitment

Business Track

Kelly Newcomb, Ellen Rohr, Women's Roundtable
Room 136-138

- 8 a.m. | Grow or Go! Why Most Companies Fail to Grow Effectively and What You Can Do to Keep Your Company From Failing
- 9:30 a.m. | Target Marketing: How to Effectively and Efficiently Grow Your Sales
- 11 a.m. | Effective Branding and How it Can Help Your Business
- 1:30 p.m. | Business Basics 101
- 3 p.m. | Build the Business You REALLY Want
- 4:30 p.m. | Women in Wastewater Roundtable Discussion

Gil Longwell
Room 140-142

- 1:30 p.m. | Protecting Private Enterprise

Marketing Track

Susan Chin
Room 133-135

- 8 a.m. | Ladies and Gentleman: Create Your Personal Brand and Strategic Network for Success in 5 Easy Steps
- 9:30 a.m. | Effective Website Design and Engaging Customers in the Digital Age
- 11 a.m. | Tapping into the Power of Social Media and Content Marketing

Road Rules & Safety Track

John Conley
Room 133-135

- 1:30 p.m. | A Trucker's Guide to Washington Speak
- 3 p.m. | Cargo Tank Safety and Regulatory Report
- 4:30 p.m. | Compliance with Part 180 and Preparing for a Tank Truck CT Shop Audit

You can view the complete schedule of events along with an exhibitor list, floor plan, travel information and everything else you'll need to plan your trip to Indy at www.wett.com



Tuesday Sessions

Detailed session information available at: wwett.com

February 24, 2015

NAWT Track

Room 234-236

- 8 a.m. Septage Processing Introduction:
Working with an Engineer
- 9:30 a.m. Analyzing Your Resources:
What Goes on Around You is Important!
- 11 a.m. Introduction to Odor Control

Onsite Installer Track

Room 231-233

- 8 a.m. Soils, Design, O&M: What Every Installer
Should Know
- 9:30 a.m. Best Installation Practices for
Trouble-Free Pump Controls
- 11 a.m. Introduction to Effluent Filters

*MSW Track

Room 237-239

- 8 a.m. Mapping Solutions for Repair and
Maintenance of Water Distribution Systems
- 9:30 a.m. The Shift from Reactive to Proactive
Wastewater Management Best Practices
- 11 a.m. Why Hasn't Your Sewer System Evaluation
Survey Testing Worked?

*MSW - Municipal Sewer & Water

Treatment Plant Operator Track

Room 240-242

- 8 a.m. An Emerging Technology for Lagoon-Based
Nutrient Removal
- 9:30 a.m. The New Wastewater: Collection System
Challenges Caused by Today's Modern Trash
- 11 a.m. Wastewater Microbiology

Industry Safety Track

Room 243-245

- 8 a.m. New Trends and Technology in Equipment
for Excavation Safety
- 9:30 a.m. Best Practices: Use, Care and Repair of
High-Pressure Sewer Cleaning Hose
- 11 a.m. Development and Execution of a Cross-Bore
Prevention Program

Business Track

Room 130-132

- 8 a.m. How to Position Your Company in the Market Today
- 9:30 a.m. Six Proven Tactics to Generate Leads and
Turn Them Into Revenue
- 11 a.m. Growth by Acquisition or Exiting Gracefully:
Buying or Selling a Septic or Sewer Business

Drain Cleaning Track

Room 133-135

- 8 a.m. Drain Cleaning Methods - Then and Now
- 9:30 a.m. The Physics of Pipe Cleaning Tools and
How I Make it Work for Me
- 11 a.m. Lateral Lining - Are You Using the Right Tool?

Industry Technology Track

Room 136-138

- 8 a.m. How to Manage Septic Systems
using Remote Monitoring
- 9:30 a.m. GPS Tracking: Hype Vs. Reality
- 11 a.m. Wireless Controls in the Waterjet Industry:
Sacrificing Safety for Convenience

Septic Series Track

Room 140-142

- 8 a.m. True Crime Scene Stories: How to Inspect
and Troubleshoot Suspect Onsite Systems
- 9:30 a.m. One Man's Waste is Another Man's Treasure
- 11 a.m. Dewatering Options for Roll-Off Containers



*Complete contest rules and details at: wwett.com/rules



Wednesday Sessions

Detailed session information available at: wwett.com

February 25, 2015

Septic Series Track

Room 140-142

- 8 a.m. Considerations in Building Your Next Vacuum Truck
- 9:30 a.m. Grease Collection and Treatment:
Raising the Bar Via Resource Recovery
- 11 a.m. Analyzing Common Onsite Septic System
Malfunctions and Options for Prevention & Correction

*MSW Case Study Track

Room 231-233

- 8 a.m. Retrofit of the Lansdowne Sanitary P/S
- 9:30 a.m. Huntington Beach Successfully Navigates
Emergency Repair of Fragile Storm Drain
Collection System Rehabilitation –
Alternative Technology
- 11 a.m. Collection System Rehabilitation –
Alternative Technology

*MSW Technology Track

Room 237-239

- 8 a.m. Implementation of Acoustic Inspection Technology
at the City of Augusta
- 9:30 a.m. Highlights from the 7th Edition of Operation
and Maintenance of Wastewater Collection
Systems Manual
- 11 a.m. Technological Advancements Fulfill the
Promise of Zoom Survey Paradigm

*MSW - Municipal Sewer & Water

Portable Sanitation Track

Room 136-138

- 8 a.m. Portable Sanitation - Special Events
- 9:30 a.m. Making Your Portable Restroom Business Lean
and Mean – How to Boost Productivity and
Increase Your Bottom Line
- 11 a.m. T.B.D.

Treatment Plant Operator Track

Room 240-242

- 8 a.m. Utility Regulation Basics for Grease Haulers
- 9:30 a.m. The Waste in Our Wastewater
- 11 a.m. Security Issues and Best Practices for Water/
Wastewater Facilities

Pipe Rehab Track

Room 243-245

- 8 a.m. Integrating Temperature Sensor Technology
within Lateral Pipeline CIPP Installations
- 9:30 a.m. CIPP Calibration and Vacuuming
- 11 a.m. Extending Life Expectancies with Corrosion-
Resistant Coatings and Linings

Business Track

Room 133-135

- 8 a.m. Team Building for Profit
- 9:30 a.m. Ten Commonsense Ways to Grow and
Improve Your Business
- 11 a.m. Setting Expectations – The Key to Sales
and Customer Satisfaction

Advanced Onsite Installer Course

Room 234-236

8 a.m. - 5 p.m.

- Introduction and Site Evaluation
- System Sizing and Basic Design Principles
- Pumping to Systems
- Installations of ATUs
- Installing for Management
- Troubleshooting Systems

To register or for
detailed information:

wwett.com
866-933-2653

Register Today and Be Entered to Win!

Register to attend the 2015 WWETT Show and you'll automatically be entered to win this Chevy 4x4!





Sections of Infiltrator EZflow are lined up in what will become the evaporative bed for J & A RV Park in Winterhaven, Calif. Existing clay was excavated and a subcontractor subsequently brought in more than 400 truckloads of sand to create the bed. (Photos courtesy of Blake Swenson)

A Desert Oasis

Westar Plumbing Services installs a massive evaporative system for an RV park on the California-Arizona border, bringing value to a barren dried-up river bottom

By David Steinkraus

The problem facing developers of the J & A RV Park in Winterhaven, Calif., was how to make their 5.4 acres productive. They are in an area full of RV parks. Winters are mild with no humidity, low temperatures in the 50s and highs in the 70s, and many people head to the desert Southwest to escape the cold of northern winters. The J & A park would build on this customer base, but creating this new RV park was possible only with creative help from wastewater professionals.

RV HOPES

Winterhaven is right across the state border from Yuma, Ariz. On the California side is the reservation of the Yuma-Quechan tribe, and it is here the park was built. It's a nice piece of land, says Blake Swenson, field superintendent for Westar Plumbing Services Co. of Yuma, who oversaw the project. There are fields all around, and you get the impression of being far out in the country even though the area is well settled. The park doesn't have a pool and other outbuildings. It's a well-organized, basic facility in a nice location.

The L-shaped piece of land itself presented problems. It is old river bottom. Perhaps it was an older route of the Colorado, or maybe the Gila. Both rivers wind through this section of the country, and both are lined with checkerboards of irrigated farm fields. The water table is about 4 feet below grade, and the soil is clay, 14 to 17 feet of it in some places. A soil analysis found nothing other than clay. "You could take a piece of that clay, pour water on it and the water would just sit there," Swenson says.



Walter Balinski, marketing manager for Westar Plumbing Services of Yuma, Ariz., looks over the excavated 2 acres that became an evaporative bed for J & A RV Park in Winterhaven, Calif. The wall was already present, and if it had not been, something would have to have been built to stop vehicles from driving over the bed.

There is a municipal sewer system, but J & A is about 2 miles from the nearest main, Swenson says. The park would have needed to lay pipe to reach that municipal line, plus spend \$200,000 for a lift station and an injector pump, and then the municipality would have charged 37 cents per gallon for disposal. It wasn't a financially reasonable solution.

RIGHT: Enrique Estrada, left, and Dennis Sanchez from Westar Plumbing Services Co. check the separation on lines of EZflow that will form an evaporative bed for the J & A RV Park in Winterhaven, Calif. Westar laid more than 5,000 feet of EZflow to distribute wastewater from the 53 campsites and office building at the park. In the background at right is one of the Infiltrator tanks waiting to be installed.

BELOW: Dennis Sanchez from Westar Plumbing Services Co. starts moving sand for the evaporative bed at J & A RV Park in Winterhaven, Calif. Stacks of EZflow in the background provided dispersal of treated wastewater. Westar laid more than 5,000 feet of EZflow for the bed.



When system designer Nicklaus Engineering Inc. did the perc test, there wasn't any percolation. But under the hot desert sun there was plenty of evaporation. That started Swenson and NEI engineer Stacy Gutierrez thinking. They came up with the idea of an evaporative bed that would be installed on 2 acres of land next to the campground.

THE SYSTEM

Hydraulic capacity was calculated at 160 gpd per bedroom with an assumption of about two bedrooms per space for each of the 50 spaces. There is also a bathroom in the office building.

Each RV campsite has a 4-inch clean-out pipe running into a 4-inch collection main. Collection mains discharge wastewater into the first of five 2,000-gallon septic tanks from Infiltrator Systems. The TW1500 tanks are plumbed in sequence with water flowing in from one to the next. Each tank is equipped with a Zabel Industries filter to remove solids larger than 1/8-inch.

From the last tank, wastewater flows into a manifold that splits the flow among 23 evaporation lines using Infiltrator's EZflow. Westar's crew laid a total of 5,873 feet of EZflow. Promoting itself as a green company, Westar especially appreciates products like this made from recycled material, Swenson says.

"A lot of our solution comes from ingenuity and the years of experience we have, plus the availability of new technology. We knew we had to solve the problem in an efficient, effective way that would cause the least issues in the future for our customer. We created a system that will last 50 years."

Blake Swenson

The impermeable clay soil would not work in an evaporative bed, so Westar built one of sand. Westar's subcontractor excavated 24 inches of clay from the site for the bed, then brought in 13,200 tons of local fill sand, more than 400 truckloads, to create a sand bed 36 inches deep. There was no

SYSTEM PROFILE

Location:	Winterhaven, Calif.
Facility served:	J & A RV Park
Installer:	Westar Plumbing Services Co., Yuma, Ariz.
Designer:	Nicklaus Engineering, Inc.
Site conditions:	Solid clay in an old riverbed
Type of system:	Commercial wastewater system with a septic tank and dispersal through an evaporative bed
Hydraulic capacity:	5,500 gpd

reclamation of the land. If plants grow there they will be plants that seed naturally, Swenson says.

From start to finish the project required eight weeks. A Westar crew of five people used six of those weeks and a four-person excavating crew worked for the other two.

GRAVITY JUST WORKS

There are no pumps involved. Westar's installation runs completely on gravity, which Swenson is proud of. "Lift stations are prone to failure. They are prone to costly repairs. If you can get away with not using one, don't use one," he says.

Creating a gravity-based system was easier because of the 2-acre site for the evaporative bed. The 24 inches of clay excavated from the site was distributed across the rest of the property, raising that grade by 24 inches above the septic tanks.

This is not to say the excavation was easy for Westar's subcontractor. "That native clay is very, very hard. It can be equivalent almost to 75 percent

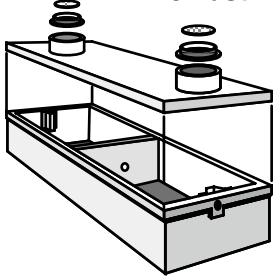
Water Tight Structures 2 Compartment

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 info@crestprecastconcrete.com



Workers from Westar Plumbing Services in Yuma, Ariz., distribute sand to form an evaporative bed for the wastewater system at J & A RV Park in Winterhaven, Calif.

of concrete. It was very difficult to excavate because it had never been touched before," Swenson says.

There will be no problems from heavy seasonal use followed by an absence of waste when the campers return north for the warmer months, Swenson says. When there are no or few RVs in the park, the septic tanks will still be breaking down organic material. Meanwhile, the evaporative bed will have a break of a few months. The system will make no maintenance demands on the owners other than the usual pumping of tanks every few years.

The whole project was also done according to the Universal Plumbing Code. Tribal laws did not require this, but Westar did it anyway. It's just the right way to do work, Swenson says. Nicklaus Engineering and Infiltrator are both doing their own studies of this system for possible application elsewhere.

When the park opens, its wastewater system will allow productive use of a piece of land that would otherwise have been useless.

"This was a dream they wanted, and it could literally have been stuck in the mud. A lot of our solution comes from ingenuity and the years of experience we have, plus the availability of new technology. We knew we had to solve the problem in an efficient, effective way that would cause the least issues in the future for our customer. We created a system that will last 50 years," Swenson says. □

MORE INFO:

Infiltrator Systems, Inc.
800/221-4436
www.infiltratorsystems.com
(See ad page 3)

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

Junction Boxes, Alarms, Pedestals, & Pump Controls

Septronics® Inc.

Septronics has just released a new terminal board that fits your 120V MJJ junction box or PMJ Pedestal junction box. *Terminal Board #3044 has a **Hand-Off-Auto (HOA)** toggle switch so you can *run the pump manually, turn it off completely, or flip the toggle to Auto* and the float switch will automatically control the pump. Plug your pump into the receptacle, **plug in your double or single float pump switch, add power** and you are **ready to go**.

Putting in and operating a pump control just got easier!



*Fulfills new Colorado regulations

www.septronicsinc.com

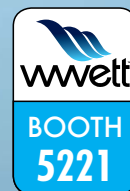
Ph: 262.567.9030 • Email: susan@septronicsinc.com

Have you seen the **ONSITE installer E-Zine?**

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

Water doesn't grow on trees.

It's a precious resource. How we solve a water problem is key. Water is life for people and businesses around the world. Only efficient, low cost, easy-to-use wastewater treatment systems make this possible. That's Bio-Microbics' mission. With over 45,000 installations in the USA and in more than 60 countries, it's what we do every day.



Download the Bio-Microbics App to your mobile device!



Google Play Store
(ANDROID DEVICES)



Apple App Store
(APPLE DEVICES)

**Simple, Low Cost, Robust
Water, Wastewater and Stormwater Treatment Systems**

www.biomicrobics.com | 800.753.FAST (3278) | sales@biomicrobics.com

© 2014 Bio-Microbics Inc.

BIO MICROBICS
BETTER WATER. BETTER WORLD.®

Yuletide For Your Toolbox

Check out these holiday stocking stuffers for the mechanics on your crew

By Ed Wodalski

The 12 days of Christmas are right around the corner. But for the onsite installer, this time of the year also means working in the shop tuning up equipment ahead of the next busy season.

Today you might be performing annual maintenance on your mini-excavator. Tomorrow it could be time to tweak your pickup truck to survive the long hauls to job sites. Your tools and the consumables in your shop are heavily used in the winter and the mechanics in your garage would appreciate a few handy items in the toolbox this year.

So we decided to go looking for stocking stuffers to keep your crew happy while they're working under the hood and asked some seasoned mechanics for advice on thoughtful gearhead gifts. Here's what they had to say:

FUEL AND OIL ADDITIVES

Don Barlow, mechanic with Three Lakes Truck & Equipment in Three Lakes, Wis., says a bottle of Sta-Bil Red comes in handy when storing vehicles. The fuel stabilizer helps keep gasoline fresh from 30 days to 12 months. After a year it's best to cycle the fuel out. The recommended amount of stabilizer is 1 ounce for every 2 1/2 gallons of gasoline. Tip: Add Sta-Bil to a full tank of fuel.

Sta-Bil Ethanol Treatment is another stocking stuffer Barlow finds useful around the shop. It removes water and cleans injectors. Recommended for every fill-up, it's best used for everyday protection, especially when fuel quality is questionable.

A bottle of Marvel Mystery Oil might also find its way into Barlow's stocking.

"You can use that stuff for almost anything," he says. "A rust penetrant for breaking seized parts loose. You can use it for air-tool lubrication. It's just good all the way around."

Marvel Mystery Oil has been around since 1923, providing upper cylinder lubrication, while reducing acid and sludge buildup. Marvel



Jim Abel, vice president and co-owner of Jon's Auto Repair in Mosinee, Wis., wouldn't mind finding a can of brake cleaner in his Christmas stocking. (Photos by Ed Wodalski)

recommends adding 4 ounces to every 10 gallons of gasoline to prevent carbon buildup on injectors. It can also be used with diesel but does not comply with sulfur content requirements for 2007 and newer vehicles. It can be added to the crankcase and is compatible with synthetic and semi-synthetic blends of oil. Marvel recommends adding 1 quart to 4 quarts of oil or a maximum of 25 percent of crankcase capacity.

Jim Abel of Jon's Auto Repair in Mosinee, Wis., is another fan of Marvel Mystery Oil. "It's not a real high strength cleaner that's going to eat up seals and O-rings because it's oil-based," he says.

Sea Foam Motor Treatment is also high on Abel's list of additives.



(PHOTOS LEFT TO RIGHT):

- Penetrating oil, such as JB 80 from Justice Brothers, comes in handy when freeing seized nuts and bolts.
- A crowfoot wrench makes it easy to get into tight spaces, while a locking extension keeps the wrench from falling off in cramped engine compartments.
- Jim Abel of Jon's Auto Repair in Mosinee, Wis., uses Sea Foam Motor Treatment for cleaning injectors and dissolving gum and varnish in fuel systems.



He uses it for cleaning injectors and dissolving gum and varnish in fuel systems. Developed for the outboard motor and marine market in the 1930s, the petroleum-based cleaner, lubricant, stabilizer and moisture controller can be added to gasoline and diesel fuel, as well as oil crankcases.

"You can use [Marvel Mystery Oil] for almost anything. A rust penetrant for breaking seized parts loose. You can use it for air-tool lubrication. It's just good all the way around."

Don Barlow

"It works," he says. "It's just a good product. It's good for keeping fuel systems clean. It'll actually help clean the upper cylinder under the valves, the seats and faces of the valves where the carbon gets accumulated in the combustion chamber – the top of the pistons up to the first ring."

Abel also keeps Sea Foam Spray on the shop shelf for cleaning intake systems and fogging engines, as well as Sea Foam Trans Tune for cleaning transmissions, power steering or hydraulic systems.

Other stocking stuffers to consider are brake cleaner, JB 80 penetrating oil from Justice Brothers or a tube of high-temp disc brake wheel bearing grease.

LED WORK LIGHTS

Rechargeable LED lights are gaining in popularity due to their convenience and the dependability of the improving LED lighting technology. Barlow says his Steamlight lasts about six hours on a charge. "It's got a swivel head and nice strong magnet; just an all-around tough light," he says. LED lights are designed to use less power than incandescent and compact fluorescent lights, run cooler and last a lot longer. Pen-sized, clip-on lights are also producing more consistent, high-intensity beams these days and are a significant upgrade over older lights.

TOOLS, TOOLS, TOOLS

Spark plug wrenches might not be high on your wish list, unless the vehicle you're working on is a top-selling 2004-2008 Ford pickup with a 5.4 liter Triton engine.

"Because the plug sits so far down in the hole Ford pressed on about an inch-and-a-half extension," says Kevin Baumann, an ASE-certified mechanic with 30 years under the hood. "After awhile the cylinder hole fills up with carbon, but when you take the plug out, the carbon prevents the extension from turning. The plug screws itself out but the extension stays in there."

Ford's service bulletin recommends six hours to replace the plugs and a special tool is required to extract the extension. Ford has since corrected the problem.

Crowfoot wrenches and locking socket extensions are a few other specialty tools that come in handy for those knuckle-scraping jobs.

Offset, ratcheting box wrenches are good for getting into spots where a regular wrench won't do, while one-click wire strippers make quick work of electrical jobs.

A set of stud extractors for removing broken bolts also comes in handy, along with a 90-degree drill. Something as simple as a set of punches or picks for extracting O-rings or disconnecting wiring clamps also make thoughtful gifts.

A word of caution to the gift buyer: Good mechanics are possessive of their tools. For many, not just any brand will do, which is why gift cards were invented.

"Gift cards are great; they're always good," says Brian Stroetz at V & H Trucks in Marshfield, Wis. "You can get gift cards for the Snap-on truck, Matco. Some people like Craftsman."

SOME LAST-MINUTE STOCKING STUFFERS

For all you last-minute shoppers, here are a few other items everyone in your shop can appreciate: shop rags, safety glasses, gloves, hand cleaner and screwdrivers. □

Two Heads Are Better Than One

In New Mexico, separate onsite wastewater trade groups work together to bolster the state's system maintenance requirements for the good of the industry and system users

By Doug Day

New Mexico is one of the few states with two trade organizations representing the onsite wastewater industry. The Professional Onsite Wastewater Reuse Association of New Mexico (POWRANM) is a statewide group, while the New Mexico Onsite Wastewater Association (NMOWA) represents members mainly in the southern part of the state.

NMOWA began in 2010 and has about 10 members along with about 175 people on its distribution list, according to past president and current secretary/treasurer Jace Ensor. POWRANM was formed in 2004 and has about 30 members. "When we go to the Legislature or to public meetings on rule changes, they like to see an organization rather than individuals," says Gene Bassett, CEO and a founding member. "That's why we formed the group."

Doing so helped achieve several rules changes, including a requirement for transfer of property inspections that started in 2005. That and several other rules were written by Bassett, owner of E.C. Bassett Construction.

"The industry benefited to the tune of probably \$50 million to \$70 million in nine years because of the inspections, more pumping, system replacements and modifications, and finding troubled systems," says POWRANM President Ralph Baker Dotson.

Ensor, who owns Mountain Top Inc., adds that the inspection requirement has helped homeowners as well. "Purchasers who have never owned a septic system benefit by knowing their system is functioning reasonably well," he says. "Knowing what is going to happen at closing eliminates some painful surprises."

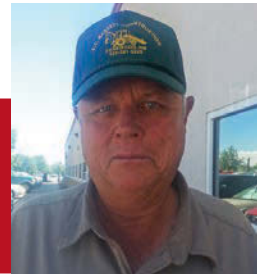
BETTER MAINTENANCE

Ensor would like to see more promotion of proper maintenance. "I despise having to tell a homeowner that if they would have pumped their system five years ago, they wouldn't be spending up to \$10,000 now. I ask what it would have taken to convince them to maintain their system. I've never gotten an answer. Operators of onsite systems need to understand that while not a lot of maintenance is required, some is critical."

Municipal sewer in Ruidoso, where Ensor lives, costs \$53.50 per month inside the city limits. "My office just outside the city limits, but on municipal sewer, has to pay double - \$107 per month. An aerobic system typically costs \$1,000 a year to maintain including periodic pumping. It seems the ones that scream the most are those with older conventional systems that refuse to pay \$500 for pumping every three to five years."



Jace Ensor,
of the New Mexico Onsite Wastewater Association, can be reached through www.newmexicoonsitewastewaterassociation.com.
NMOWA



Gene Bassett,
of the Professional Onsite Wastewater Reuse Association of New Mexico, can be reached through www.powranm.org.
POWRANM



Ralph Baker Dotson,
of the Professional Onsite Wastewater Reuse Association of New Mexico, can be reached through www.powranm.org.
POWRANM

At the suggestion of the industry groups, New Mexico recently added requirements for risers on tanks, effluent filters, and new standards for gravel systems. Work is underway on other changes. "Onsite systems need better grease traps and a better way to size them," says Bassett. "There are more restaurants and service stations off the sewer grid so we have to come up with a good formula."

A UNIFIED FRONT

Such regulatory changes are now a coordinated effort between the industry and regulators. It's a sign of healing some longstanding relationship problems. For instance, certified installers are required to get 16 continuing education units every three years, but certification that used to be mandatory is now voluntary. "There was a fight between our association

and the New Mexico Environment Department [NMED] and they got it removed from the regulation,” according to Dotson, owner of AAA Allied Septic Service.

Bassett says NMED didn't take kindly to the onsite professionals joining forces in 2004. It didn't help that POWRANM went around NMED to get regulations changed. “Anybody can petition the Environmental Improvement Board to change regulations, which is what we did.”

Bassett helped develop those regulations, including such things as tank sizing standards, low-pressure pipe regulations and the section of the law dealing with the installer certification. “NMED contested many of the changes but the board ruled for us. That's when the rift started.”

Cracks were also developing within the onsite group, which led to Ensor and others forming NMOWA. Dotson says POWRANM takes responsibility for that. “I don't think we focused as much on our membership as we should have. There was probably a need that POWRANM was not fulfilling.”

“An aerobic system typically costs \$1,000 a year to maintain including periodic pumping. It seems the ones that scream the most are those with older conventional systems that refuse to pay \$500 for pumping every three to five years.”

Jace Ensor

BRIGHT FUTURE

While the rule changes shepherded by POWRANM were a positive, Dotson says the group lost sight of other important issues like listening to and serving members. “We have more members today than last year and we're paying a lot of attention to them. You have to take care of your members and it's also important to get members involved.”

The relationship between the two groups has become much more positive. “We collaborate a lot more,” says Dotson. “We've mended a lot of fences and are bringing the industry much closer together. We learned from our mistakes. We've been candid with each other and I've apologized for the things we did. We're really working on it.”

The two groups now communicate regularly, attend each other's conferences where they can get continuing education credits, share ideas and work together in the planning and coordination of training. As a board member of the National Onsite Wastewater Recycling Association and vice president of the National Association of Wastewater Technicians, Bassett helps customize their training resources to meet the needs of New Mexico's onsite industry.

POWRANM and NMOWA planned their two-day Consortium of Institutes for Decentralized Wastewater training sessions, held back-to-back over four days last June, to have the same trainers conducting all the classes. Conducting training in both the north and south parts of the state also saved travel time for many people.

HELPING THE INDUSTRY

All three association leaders give credit to new management at NMED for building bridges between regulators and the industry. Those now leading the agency used to work out in the field, according to Dotson. “They were the inspectors who were literally in the trenches with us. I think they see

things differently than the people who were there who didn't have any experience. They've seen the need for training that we've been fighting for because they weren't getting training and are now working with us to make a better industry.”

Ensor adds that the industry and regulators now consult on proposals and go in with a unified position. “The Environmental Improvement Board is so grateful because they were so tired of hearing two sides that were always 180 degrees apart. Now we are together on what is important to groundwater and onsite systems.”

There has even been some talk about bringing the two organizations back together. Ensor isn't sure that is needed; their headquarters are about four hours apart and the needs of their members are different. “We can both serve the industry and a little friendly rivalry is a good thing,” he says. “With our new approach, philosophy and our collaboration efforts, it's wonderful.”

Their story, says Dotson, is a good lesson for others. “What's best for the whole industry? Ultimately, we all benefit and the consumers are also going to benefit if we all do a good job.” □

Onsite Installer
subscriptions are **FREE**

Go online www.onsiteinstaller.com to subscribe/renew

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

- ◆ 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

Business Diversification - Pumping and System Maintenance

By Craig Mandli

A vacuum truck or tank-and-pump combination give onsite system installers and maintainers the flexibility to pump tanks during inspections and maintenance operations or diversify their service menu. Check out these products to help installers serve their customers in a more comprehensive way.

VACUUM TRUCKS

4,000-gallon vacuum truck

Vacuum trucks from Best Enterprises are built on a Kenworth chassis with a 4,000-gallon stainless steel tank. They include a 6-inch dump valve with heated collar; two stainless steel toolboxes; 20-inch top and 36-inch rear manways; strobe lights; a heated coil in the water compartment; a Moro PM110 600 cfm liquid-cooled vacuum pump; and a DC10 MTH water pump with low-pressure hose reel. Safety features include a backup camera with 5-inch LCD display, stainless steel ladder, LED DOT stop/turn taillights and sealed-bulb backup lights, and a heavy-duty bumper with receiver-style trailer hitch with a seven-way plug. It has three 5-inch sight glasses, two 3-inch suction inlets and a 2-inch bucket dump. 800/288-2378; www.bestenterprises.net.



Vacuum septic service truck

The Workmate vacuum septic service truck from FMI Truck Sales & Service is available in steel, stainless steel or aluminum, in capacities from 2,200 to 4,000 gallons. They are available in single- or two-compartment tanks, with a jetter system and choice of rotary vane vacuum pump or blower. Units can be built on a variety of chassis options. 800/927-8750; www.fmitrucks.com.



Industrial vacuum loader

The Guzzler Classic industrial vacuum loader from Guzzler Manufacturing has enhanced operator ergonomics and improved air routing, filtration and maintenance. A longer body provides improved material separation. The standard ladder, catwalk and railing provide the operator with easy and safe access to the top of the truck. Enlarged bag house and cyclone clean-out access doors provide easier access. 800/627-3171; www.guzzler.com.



Blower/vacuum truck

VAC3000 Series trucks from Imperial Industries are ASME-certified 407/412 steel DOT units with capacities of 3,200 and 3,600 gallons. Choose either a blower system



(NVE 4310 or the Hibon 820) or a vacuum system (Fruitland, Moro or Wittig) to meet specific needs. The units feature three rollover bars, bolt-on aluminum hose trays, 4-inch riser intake, 6-inch discharge, full-opening rear door, three-stage hoist assembly and a complete hydraulically controlled system. 800/558-2945; www.imperialind.com.

Vacuum truck with hydraulic components

The Dominator vacuum truck from Keith Huber Corporation has a 3,300-gallon-capacity steel tank with 5/16-inch shell, a 20-inch top manway, hydraulic tank lift and full-opening rear door, a PTO-driven hydraulic vacuum/pressure system, a liquid-cooled high-performance pump, full-length hose trays, a 4-inch inlet with internal standpipe for easy decanting, a 6-inch discharge valve for direct pressurized or gravity unloading, rear work lights and LED running lights, and a backup alarm and grounding reel. Options include multiple compartments, ASME/DOT 412 certification, a stainless steel tank with wetted stainless parts, high-pressure jetting systems with integral water compartment, an auxiliary transfer pump and a top-mounted hydraulic 4-inch boom. 800/334-8237; www.keithhuber.com.



Portable vacuum system

The Vac-u-Drum portable vacuum system from Oakley Vac, a Division of WMW, is capable of vacuuming solids and/or liquids into open-top 45-gallon drums or various other containers. The compact unit is effective for use in remote locations or confined areas traditional vacuum trucks cannot access. Filled drums can be removed by ATV, helicopter, barge/boat or other small vehicles. Units come in a number of configurations. 800/663-1624; www.oakleyvac.com.



Versatile service truck

The VP Series service truck from Pac-Mac, a division of Hol-Mac Corporation, comes with a 2,500-gallon tank with 66 inches OD and 156-inch shell length (also available in 1,500, 3,000, 3,500, 4,200, 4,500 and 5,000 gallons), a 1/4-inch thick shell and 5/16-inch nominal thick heads, right-angle drive pump system, 20-inch rear and top manways, manway ladder with safety tread, bolt-on baffles and hose trays with drains, rear hose hooks, 4-inch intake and 6-inch discharge, and a premium two-component epoxy primer-sealer and polyurethane topcoat in solid and



metallic colors. Options include a hydraulic-drive jetting system, 36-inch rear manway, multiple toolboxes, bedliner applied to hose trays and tank, a chemical-resistant two-part epoxy interior liner, safety beacon, rear sump and stainless steel float level indicator. 800/844-3019; www.e-pac-mac.com.

3,600-gallon vacuum unit

The 3,600-gallon steel tank vacuum unit from **Pik Rite** is equipped with a 20-inch manway, aluminum hose trays and a DOT rear bumper. It has a 6-inch dump valve, 4-inch inlet with standpipe, a cleanable exhaust muffler and a ladder with safety grip tread. Working force is provided by a Masport HXL400 liquid-cooled pump with a 10-gallon secondary and final filter. Sight eyes, safety strobes and an LED light package are standard. Options include toolboxes, backup cameras and extra lighting. 800/326-9763; www.pikrite.com.



VACUUM PUMPS

Sliding-vane vacuum pump

The RVC360 sliding-vane vacuum pump from **Jurop/Chandler Equipment** offers free airflow at 360 cfm, maximum pressure of 30 psi, a maximum vacuum of 95 percent and speeds of 1,300 rpm. Its manifold has an embedded check valve and a compact intake design allowing for a space-saving install. 800/342-0887; www.chandlerequipment.com.



High-efficiency vacuum pump

The PM110W vacuum pump from **Moro USA** has Kevlar vanes, visual inspection ports and high-efficiency cantered rotor. It can be cooled by water or other liquids, and has high-quality Viton oil seals, direct-feed oil-injected lubrication, and sealed or oil-injected bearings that eliminate grease points. It includes an integrated check valve, changeover valve and automatic oiling system that, along with low-speed rotation, extend pump life in rigorous conditions. The pump weighs 645 pounds, has 29 psi positive pressure capability, 630 cfm free airflow, can run at 24 inches Hg continuous (with 28 inches Hg maximum intermittent) and a suggested tank size between 2,000 to 6,000 gallons. It is available in right-angle and engine-drive packages. 800/383-6304; www.morousa.com.



Tri-lobe blower package

The 4307 **Challenger Series** tri-lobe blower package from **National Vacuum Equipment** includes a 535 cfm blower that can generate 26 to 27 inches Hg of continuous vacuum power, depending on working conditions. It has stainless steel intake and ballast air silencers, 3/8-inch steel mounting brackets protected by powder-coated paint, factory-connected elbows, fittings and high-temperature hoses and a diesel flush kit. It can be powered by either gearbox, hydraulic or belt drive configurations. A ballast air cooling system, which injects cooler ambient air into the exhaust side, keeps the blower from overheating while maintaining full vacuum power. 800/253-5500; www.natvac.com.



Rotary vane pump

The PV750 rotary vane pump from **Presvac Systems** is designed for continuous full vacuum operation in extreme conditions. It provides 400 cfm free air, and 350 cfm at 15 inches Hg, a maximum vacuum 27 inches Hg and maximum pressure of 35 psi. Dual fans and twin ballast ports cool the pump. The solid housing with deep cooling ribs allows for greater heat transfer from the vacuum chamber. Aluminum fans and shrouding further aid in heat reduction. Multiple manifold and drive options are available. 800/387-7763; www.presvac.com.



Wide-vane vacuum pump

The 753 Series vacuum pump from **Wallenstein Vacuum Pumps** incorporates extra-wide vanes that allow up to an inch of wear, resulting in longer service life and lower maintenance costs. It provides 422 cfm airflow performance at 1,200 rpm operation and precision machining for vacuum levels up to 28 inches Hg. Model options include air, liquid or dual-cooling systems where air injection is combined with liquid cooling. A pump flushing port is included on the top valve for convenient regular maintenance. The quick-access housing endplate makes for easy internal inspection with no bearings to pull. Oil lubrication is via a mechanical piston pump driven by shaft rotation, or available with a sight-feed valve oil regulator system that uses vacuum/pressure to draw oil with no moving parts. 800/801-6663; www.wallenstein.com.



Preassembled vacuum pump unit

Conde Powerpak preassembled, gasoline- or diesel-powered vacuum pump units from **Westmoor Ltd.** are easily bolted down and attached to the tank. They have a heavy-duty steel base with aluminum diamond-plate trim and belt guard. They are available with either vacuum-only or vacuum/pressure pumps. A wide cfm range ensures matching the right unit to various tank sizes and applications. They are powered by Honda GX commercial-series gasoline or Yanmar industrial air-cooled diesel engines. Units can be transferred with ease to another tank system when needed. 800/367-0972; www.westmoorltd.com.



HOSE

Suction hose

Tigerflex Tiger Green flexible, lightweight EPDM rubber suction hose from **Kuriyama of America** has a bright green polyethylene helix construction for outdoor wet or dry applications. It is chemical resistant, flexible and durable. Abrasion-resistant green helix is designed to slide easily over rough surfaces and around objects, making it easier to handle. 847/755-0360; www.kuriyama.com.



ACCESSORIES

Vacuum tank

The aluminum **Matador** septic/grease vacuum tank from **Amthor International** comes standard with a 5/16-inch-thick side shell and floor, full head baffles and no external rings. It is available as a dumping tank with or without full-opening rear doors, with the Claw



hydraulic rear door-opening mechanism, as well as with off-road construction options for various applications. Various pump models are available. 800/328-6633; www.amthorinternational.com.

Insulated boiler cabinet

Insulated boiler cabinets from CanAm Equipment Solutions house a Hotsy 750,000 Btu boiler, a CAT 660 pressure washer and hose reels. An optional workbench with storage is available. 877/582-2626; www.canamequipment.com.



Low-profile vacuum tank

The All-In-One Rectangular Vacuum Tank from Crescent Tank Mfg. is a low-profile flat vacuum waste tank with capacities of 550 to 1,000 gallons and the versatility to carry equipment on top of the tank. The unit comes with a poly freshwater tank, Masport vacuum pump system, liftgate, 25-foot vacuum hose wand assembly, 50-foot hose with retractable reel for freshwater, 1 1/2-inch fast fill, bucket holder, toolbox and work light. Other vacuum tank sizes are available along with options such as passenger side service, DC10 water pump and hitch/receiver. 585/657-4104; www.crescent-tank.com.



Biodegradable pump oil

Fruitland Green biodegradable vacuum pump oil from Fruitland Manufacturing can be used with all Fruitland rotary vane pumps. It is both environmentally and operator safe. Operators will no longer have to worry about harming the environment with spills. The oil helps reduce emissions and is nontoxic. 800/663-9003; www.fruitlandmanufacturing.com.



Quick-connect coupling

GatorLock Couplings from Green Leaf allow for the quick connect and disconnect of tanks, pumps and transfer lines. The locking mechanism reduces the possibility of unintentionally opening the cam levers, which could result in personal injury and costly spills. Polypropylene couplings are highly resistant to chemical solvents and environmental stress. The line includes 1/2- through 3-inch locking cams, as well as 1/2- through 4-inch non-locking cams in Series A-F. The maximum operating pressures are 90 to 125 psi at 70 degrees F. 800/654-9808; www.grnleafinc.com.



Hot-dip galvanized vacuum tank

Hot-dip galvanized vacuum tanks from LMT – VAXTEEL resist corrosion in harsh environments. Steel tanks are fully submerged to provide full coverage inside and out. Galvanizing is a proven corrosion deterrent against the caustic liquids and gases encountered during septic service. Tanks are available in 300- to 5,000-gallon capacities with customizable options. They are available with single or multiple compartments. Galvanized tanks can remain unpainted or be painted for a more traditional appearance. 800/545-0174; www.vaxsteel.com.



Aluminum vacuum tank

Aluminum vacuum tanks from Mid-State Tank Co. come with 20-inch top and rear manways, primary, three 5-inch sight eyes, pressure relief valve, 4-inch inlet, 6-inch discharge, full hose trays and a hose support in the rear. Safety specs include a ladder to the top manway, along with LED lights and wiring, rear work lights, a full mounting kit and a heavy-duty rear bumper. Tanks are DOT and ISO 9001-2008 QMS registered. Aluminum and stainless steel vacuum tanks are available in capacities up to 5,500 gallons. 800/722-8384; www.midstatetank.com.



Septic/grease vacuum tank

The 2,500-gallon septic/grease vacuum tank from Robinson Vacuum Tanks comes standard with a polished aluminum shell, full flanged and dished anti-surge baffles, three 5-inch sight eyes, 20-inch top and rear manways, a 12-inch low-profile primary, full-length hose trays constructed of 3/16-inch polished aluminum, a 4-inch inlet and discharge and a heavy-duty bumper. 844/393-1871; www.robinsontanks.com. □





ALITA [®]

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

LINEAR AIR PUMP

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

☎ Call 626-962-2116 for more information



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

Socially Accepted






facebook.com/OnsiteInstaller
twitter.com/OnsiteInstaller
plus.google.com
youtube.com/OnsiteInstaller

ONSITE CONTROLS

No matter the application, we've got it under control, from float switches to event monitoring control panels, and everything in between. Now backed by our industry-leading five-year limited warranty!



SJE Rhombus

www.sjrhombus.com



WWETT Booth 2305 - Indianapolis - Feb. 24-26, 2015



New & Improved PS Patrol® System

The newly enhanced PS Patrol® system features a sleek angled clear enclosure with a removable cover for easy access for field wiring. All components are sealed within the cover for protection from the elements. Red LEDs illuminate cover for 360° visual of alarm condition.



IFS Panels with C-Level™ Sensor

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



Tank Alert® EZ Alarm System

This new alarm is all about making installations easier! It features an innovative enclosure which integrates the red LED beacon, external mounting tabs for quick installation and a removable cover which allows greater access for easier field wiring.

Extra! Extra!

Want More Stories?

Get more news,
more information,
more features with

Online Exclusives

Exclusive online content
for *Onsite Installer*

www.onsiteinstaller.com/online_exclusives



John Deere Final Tier 4 excavators

G-Series excavators from John Deere feature Final Tier 4 engines to meet the strictest emissions standards. The 250G LC has a 188 hp John Deere PowerTech PVS 6.8L engine, while the 350G LC and 380G LC have a John Deere PowerTech PSS 9.0L engine that delivers 271 hp. Diesel particulate filter cleaning occurs automatically and can go up to 15,000 hours before ash removal. 800/503-3373; www.johndeere.com.



Volvo Tier 4 Final crawler excavators

Tier 4 Final/Stage IV-compliant EC250E and EC300E crawler excavators from Volvo Construction Equipment deliver 5 percent increased fuel efficiency over previous models and feature the Volvo ECO mode that automatically reduces fuel consumption without performance loss in most conditions. The integrated work mode system allows manual control flow to the hydraulics. E-Series options include automatic idling and auto engine shutdown that reduce engine speed if the machine remains idle for a preset amount of time. 828/650-2000; www.volvo.com/constructionequipment.



Vermeer S3 Navigator horizontal directional drill

The D20x22 S3 Navigator horizontal directional drill from Vermeer features 19,550 pounds of thrust/pullback with 2,250 ft-lbs of torque. Powered by a 74 hp Deutz engine, the drill has a carriage speed of 167 feet per minute and can climb slopes and track at 3.3 mph. 888/837-6337; www.vermeer.com.



BAYCO NIGHTSTICK multifunction LED flashlights

Nightstick multifunctional MT-200 Series Mini-TAC Pro flashlights from BAYCO Products, Inc. are 4 to 6 inches long and weigh 1.9 to 3.2 ounces. With a housing made from aircraft-grade 6061-T6 aluminum, each flashlight (MT-200, MT-210, MT-220, MT-230) has a drop rating of 2 meters and waterproof rating of IPX7. All lights feature CREE® LEDs with a deep parabolic reflector for a tight, long-throw beam. The flashlight body and tail switches provide momentary or constant-on functionality with high, medium or low settings, as well as strobe. 800/233-2155; www.mynightstick.com.



Oldcastle reinforced concrete pipe

Reinforced concrete pipe from Oldcastle Precast, designed for stormwater transmission, can be manufactured to custom specifications. Sanitary liner systems are available. Circular pipes range from 15 to 48 inches I.D. and 19.5 to 58 inches O.D. Elliptical sizes include 12 by 18 inches (15-inch round equivalent), 14 by 23 (18-inch equivalent), 19 by 30 (24-inch equivalent), 24 by 38 (30-inch equivalent) and 29 by 45 (36-inch equivalent). 888/965-3227; www.oldcastleprecast.com/wastewater.



Bio S.I. Technology Septic Cleanser

Septic Cleanser from Bio S.I. Technology is an all-natural microbial and enzyme formula designed to break down matter in septic systems and RV septic tanks. One quart of formula is applied directly to the septic system each month to prevent sludge buildup and odor. It can also be applied to the lawn to aerate soil in the leachfield and reduce wet spots. 866/393-4786; www.biositechnology.com.



Glenetronics Pro Series combination sump pump

The PHCC Pro Series PS-C33 combination primary and backup sump pump from Glenetronics is designed for use with wet cell or maintenance-free batteries and features remote terminals for connection to a home security system or auto-dialer. Preassembled for easy installation, the primary pump can evacuate 3,000 gph at 10 feet TDH. The backup can pump 2,400 gph at 10 feet TDH, switching automatically to battery power when AC fails. The monitoring controller detects irregularities, sounds an alarm and pinpoints problems and solutions on the control panel. 800/991-0466; www.stopflooding.com. □



Like what you are reading? Onsite Installer is Free!
Keep it coming at www.onsiteinstaller.com

Introducing The Most Durable & Economical Septic Lid On The Market
Buy Direct from the Source – No Middleman!

- Durable & Lightweight Polymer
- WILL NOT Crack Like Concrete!
- Easier to Handle & Transport
- 12", 18" & 24" Available
- Easy Installation
- Optional Sand Fill
- Have It Customized (Name, Number or Logo)
- Green or Black
- Foam Filled (Optional)
- Hardware Included
- Custom Plastic Mfg. Molding Available



RotoSolutions 800.868.0973 www.RotoSolutions.com

Pumper & Cleaner

PROFIT

Series

3 DAYS OF HANDS-ON BUSINESS BUILDING & NETWORKING

ORLANDO, FLORIDA • GAYLORD PALMS
MARCH 25-27, 2015

EARLY REGISTRATION: ONLY \$395 PRIOR TO NOV 25, 2014
ADDITIONAL REGISTRANTS FROM SAME COMPANY SAVE \$100

WWW.PUMPERPROFIT.COM

866-933-2653

DAY 1 & 2 - ELLEN ROHR

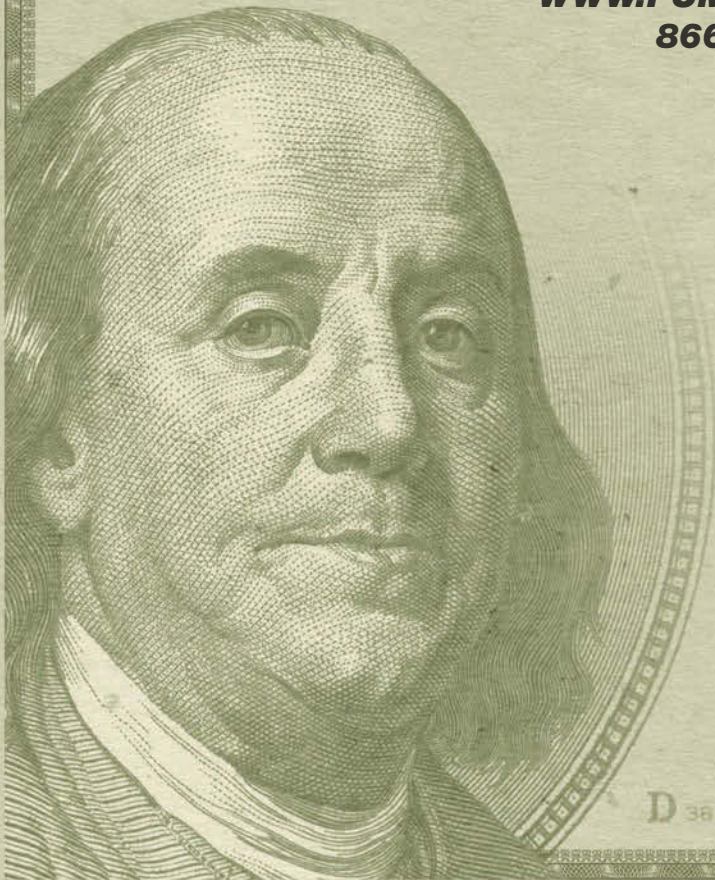
- **WHERE DID THE MONEY GO?**
- **HOW MUCH SHOULD I CHARGE?**
- **REWARD THE RIGHT STUFF**
- **BUYING, SELLING AND GETTING OUT**

DAY 3 - JEFF BRUSS

- **HOW TO USE AND UNDERSTAND SOCIAL MEDIA, E-MAIL AND THE INTERNET AS A BUSINESS TOOL**

SMALL BUSINESS BREAK-OUTS

- **MARKETING**
- **EMPLOYEE RETENTION AND HIRING**
- **SALES AND PRICING STRATEGIES**
- **BUYING OR SELLING A BUSINESS**
- **PROFITABLE IDEAS**



Almanza receives Ditch Witch Harold Chestnut Award

Ditch Witch presented the Harold Chestnut Award to Jerry Almanza, Ditch Witch of Central Texas. The annual award is presented to the marketing manager who best exemplifies the superior service, enthusiasm and dedication of Harold Chestnut, who served as Ditch Witch parts manager for 30 years.



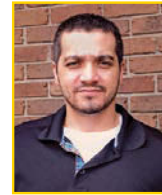
Pictured, from left, are Elvira Almanza, Jerry Almanza, Tiffany Sewell-Howard and Wayne Orender of Ditch Witch of Central Texas.

Iowa Onsite Wastewater Association presents scholarships

The Iowa Onsite Wastewater Association presented \$500 college scholarships to four students for the 2014-2015 academic year. They included Adam Bachman of Fairbank, Joe Michael Bedwell of St. Charles, Tyler Dursky of Oskaloosa and Mason Frost of Boone. Eligible students must be employed by an IOWWA member firm or related to an IOWWA member firm employee.

Ox Bodies adds designer, engineer

Ox Bodies, manufacturer of dump truck bodies and end-dump trailers, named Michael Yi product designer and Robert Keeton product design engineer.



Michael Yi



Robert Keeton

Hyundai Construction Equipment partners with Werk-Brau

Hyundai Construction Equipment Americas partnered with attachment manufacturer Werk-Brau, enabling customers to purchase Hyundai equipment with Werk-Brau attachments.

Vermeer names president, board chair

Vermeer Corp. named third-generation family member Jason Andringa company president and chief executive officer. Mary Andringa, president and CEO, will transition to board chair. Board chairman Bob Vermeer will serve as chair emeritus.



Jason Andringa



Mary Andringa

SEPTIC PRODUCTS INC

The Most Complete Line of

SYSTEM ALARMS

FLOAT SWITCHES

ON-SITE ACCESSORIES

CONTROL PANELS

Call Today
419-282-5933

sales@SepticProducts.com SepticProducts.com

wvett
BOOTH
1438



SJE-Rhombus holds training session

SJE-Rhombus held a customer training session for 23 distributors, installers, engineers and manufacturer representatives in September at its headquarters in Detroit Lakes, Minn. Sessions focused on control panels, floats and alarms.



Liberty Pumps breaks ground on building expansion

Liberty Pumps broke ground on the expansion of its corporate facility in Bergen, N.Y. The project, scheduled for completion in February, will add 81,000 square feet in manufacturing and warehouse space and 8,000 square feet to its product research and development area. □

Bag Full

onsiteinstaller.com

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

Installer is FREE!
 Subscribe/renew online at onsiteinstaller.com

ONSITE installer classifieds

Place your ad online at: www.onsiteinstaller.com

AERATORS

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

Blue Diamond Aerators, 60-120 liters, in stock, low cost. Free next-day shipping. 866-631-5124 (IM)

BACTERIA/CHEMICALS

Become a Septic Maxx distributor today and earn up to an extra \$150 in profit on every service call selling a quality product. Private labeling which means free advertising. Call today for opportunities. Top bacteria/enzyme product on the market. Don't be fooled by competitors. We beat any quoted price with a better product. Don't believe in bacteria additives? We love non-believers! www.septicmaxx.com 855-203-1682, or Adam@septicmaxx.com (P12)

DRAINFIELD RESTORATION

Soil Shaker 2000. Universal skid steer attachment for drainfield restoration. Buy factory direct. \$6,250. Check us out on YouTube or call 320-293-6644. (PBM)

New and used terralifts for sale starting at \$20,000 used and \$38,000 new. Financing available. Call Dick Crane 800-223-2256. (PBM)

HAND TOOLS

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

PUMPS

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



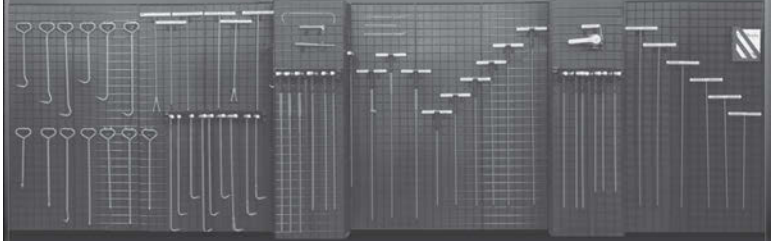
T&T Tools, Inc.

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

Email: sales@mightyprobe.com

Fax: 800.521.3260

Complete contest rules and details at: wwett.com/rules

WIN

THE TOUGHEST TRUCK IN WATER & WASTEWATER



FEBRUARY 23-26
INDIANA CONVENTION CENTER
INDIANAPOLIS

Water & Wastewater Equipment, Treatment & Transport Show

Register to attend the 2015 WWETT Show and you'll automatically be entered to win this Chevy 4x4!

Only \$60 by Jan. 23!

Register online at WWETT.COM

Serving the Industry

Visit your state and provincial trade associations

Alabama

Alabama Onsite Wastewater Association;
www.aowainfo.org;
334/396-3434

Arizona

Arizona Onsite Wastewater Recycling Association;
www.azowra.org; 928/443-0333

Arkansas

Arkansas Onsite Wastewater Association;
www.arkowa.com

California

California Onsite Wastewater Association;
www.cowa.org; 530/513-6658

Colorado

Colorado Professionals in Onsite Wastewater;
www.cpow.net; 720/626-8989

Connecticut

Connecticut Onsite Wastewater Recycling Association;
www.cowra-online.org;
860/267-1057

Delaware

Delaware On-Site Wastewater Recycling Association;
www.dowra.org

Florida

Florida Onsite Wastewater Association;
www.fowaonsite.com;
321/363-1590

Georgia

Georgia Onsite Wastewater Association;
www.onsitewastewater.org;
678/646-0379

Georgia F.O.G. Alliance;
www.georgiafog.com

Idaho

Onsite Wastewater Association of Idaho;
www.owaidaho.org;
208/664-2133

Illinois

Onsite Wastewater Professionals of Illinois;
www.owpi.net

Indiana

Indiana Onsite Waste Water Professionals Association;
www.iowpa.org; 317/889-2382

Iowa

Iowa Onsite Waste Water Association;
www.iowwa.com; 515/225-1051

Kansas

Kansas Small Flows Association;
www.ksfa.org; 913/594-1472

Kentucky

Kentucky Onsite Wastewater Association;
www.kentuckyonsite.org;
855/818-5692

Maine

Maine Association of Site Evaluators;
www.maine.com

Maine Association of Professional Soil Scientists;
www.mapss.org

Maryland

Maryland Onsite Wastewater Professionals Association;
www.mowpa.org; 443/570-2029

Massachusetts

Massachusetts Association of Onsite Wastewater Professionals;
www.maowp.org; 781/939-5710

Michigan

Michigan Onsite Wastewater Recycling Association;
www.mowra.org

Michigan Septic Tank Association;
www.msta.biz; 989/808-8648

Minnesota

Minnesota Onsite Wastewater Association;
www.mowa-mn.com;
888/810-4178

Missouri

Missouri Smallflows Organization;
www.mosmallflows.org;
417/739-4100

Nebraska

Nebraska On-site Waste Water Association;
www.nowwa.org; 402/476-0162

New Hampshire

New Hampshire Association of Septage Haulers;
www.nhash.com; 603/831-8670

Granite State Designers and Installers Association;
www.gsdia.org; 603/228-1231

New Mexico

Professional Onsite Wastewater Reuse Association of New Mexico;
www.powranm.org;
505/989-7676

New York

Long Island Liquid Waste Association, Inc.;
www.lilwa.org; 631/585-0448

North Carolina

North Carolina Septic Tank Association;
www.ncsta.net; 336/416-3564

North Carolina Portable Toilet Group;
www.ncportabletoiletgroup.org;
252/249-1097

North Carolina Pumper Group;
www.ncpumpergroup.org;
252/249-1097

Ohio

Ohio Onsite Wastewater Association;
www.ohioonsite.org;
866/843-4429

Oregon

Oregon Onsite Wastewater Association;
www.o2wa.org; 541/389-6692

Pennsylvania

Pennsylvania Association of Sewage Enforcement Officers;
www.pa-seo.org; 717/761-8648

Pennsylvania Onsite Wastewater Recycling Association;
www.powra.org

Pennsylvania Septage Management Association;
www.psmna.net; 717/763-7762

Tennessee
Tennessee Onsite Wastewater Association;
www.tnonsite.org

Texas
Texas On-Site Wastewater Association;
www.txowa.org; 888/398-7188

Virginia
Virginia Onsite Wastewater Recycling Association;
www.vowra.org; 540/377-9830

Washington
Washington On-Site Sewage Association;
www.wossa.org; 253/770-6594

Wisconsin
Wisconsin Onsite Water Recycling Association;
www.wowra.com; 608/441-1436

Wisconsin Liquid Waste Carriers Association;
www.wlwca.com; 608/441-1436

NATIONAL
Water Environment Federation;
www.wef.org; 800/666-0206

National Onsite Wastewater Recycling Association;
www.nowra.org; 800/966-2942

National Association of Wastewater Technicians;
www.nawt.org; 800/236-6298

CANADA
Alberta
Alberta Onsite Wastewater Management Association;
www.aowma.com; 877/489-7471

British Columbia
WCOWMA Onsite Wastewater Management of B.C.;
www.wcowma-bc.com;
877/489-7471

Manitoba
Manitoba Onsite Wastewater Management Association;
www.mowma.org; 877/489-7471

Onsite Wastewater Systems Installers of Manitoba, Inc.;
www.owsim.com; 204/771-0455

New Brunswick
New Brunswick Association of Onsite Wastewater Professionals;
www.nbaowp.ca; 506/455-5477

Nova Scotia
Waste Water Nova Scotia;
www.wwns.ca; 902/246-2131

Ontario
Ontario Onsite Wastewater Association;
www.oowa.org; 855/905-6692

Ontario Association of Sewage Industry Services;
www.oasisontario.on.ca;
877/202-0082

Saskatchewan
Saskatchewan Onsite Wastewater Management Association;
www.sowma.ca; 877/489-7471

Canadian Regional
Western Canada Onsite Wastewater Management Association;
www.wcowma.com;
877/489-7471 □

Breakthrough Blower Technology!

Lower operating temperature extends life of wearable parts. Best-in-class power efficiency. Highest quality product and warranty at highly competitive wholesale pricing.



844-468-1344 (toll free)
www.macblowers.com



Wolverine Brand Septic Vent Filters We Stop the Stink!



Patent #US 8,273,162

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

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



THE DIRTY BIRD™
Septic Vent Concealer

Invented and Made in the USA

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

Installs in [Easy Steps]

866.968.9668 781.806.0797

Reps & Distributors Wanted www.thedirtybird.com

WIN
the toughest
TRUCK
in water & wastewater!

Register Today!
wwett.com

Complete contest details and rules at: wwett.com/rules

February 23-26, 2015
INDIANAPOLIS

DALMARAY
Concrete Products, Inc.

888-222-4541
Janesville, WI

Putting Quality In The Ground Since 1957!

- ▣ Septic Tanks, Holding Tanks, Aeration Tanks and Grease Traps
- ▣ Tank Sizes from 46 Gallon to 10000 Gallon
- ▣ AASTHO H520 Rated Tanks
- ▣ Full Line of Accessories
- ▣ Superior Quality
- ▣ Full Service National Delivery Fleet
- ▣ Vacuum Tested, Engineered Designs

NOWRA **npca**
National Onsite Wastewater Recycling Association

www.dalmarayconcreteproducts.com

SIM/TECH FILTER
Toll Free 888-999-3290

TruCore Sludge Sampler

Tired of taking multiple samples just to guess the sludge depth? Try our TruCore!

- Quick & accurate sampling
- Works in thick sludge
- No mess release of sample
- Simple straight-thru design
- Clear tube is made of Polycarbonate
- Inside diameter of 1-3/8"
- Extendable

BOOTH 2206

www.simtechfilter.com



POLYLOK™ Inc.
 Innovations in Precast, Drainage & Wastewater Products



Zabel®
 A Division of Polylok Inc.



24" PIPE RING - (3008-CPA)

Polylok's newest product to be released is the versatile 24" Pipe Ring for 24" corrugated, 24" ribbed, and 24" smooth wall pipe. The 24" Pipe Ring can be directly cast into a concrete slab (3" - 6") or retrofitted to a variety of 24" Polylok products. Polylok makes it simple to bring your access port to grade by using the 24" Pipe Ring.

POLYLOK™ Inc.

BEST TECHNOLOGY



PL-68 PL-122 PL525/625 GF-10 12x20 4x22 4x18

EFFLUENT FILTERS

HEAVY DUTY GRATES ARE ALSO AVAILABLE!

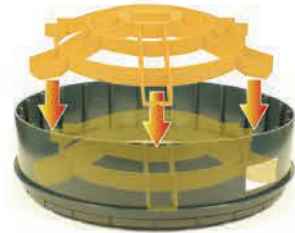


HEAVY DUTY COVERS - (12", 15", 18", 24" & 30")

SAFETY PRODUCTS



Universal Safety Screen
 3008-RSSCONC / 3008-RSSPIPE



Riser Safety Screen
 3017-SS / 3009-SS / 3008-SS



Riser Safety Pan
 3009-RP / 3008-RP



Dual Safety Screen
 3009-KYDC / 3009-JD



20" & 24" Lid-Lok
 3009-LOK / 3008-LOK

1-855-293-4820
www.polylok.com