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Jim and Dave
say goodbye p. 20

SNAPSHOT:
Visit Indiana's
Dick Blazer
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LIKE FATHER, LIKE DAUGHTER

Stacey Feser drew inspiration from her dad, an onsite installer. Today she's a designer, installer inspector and university instructor in soil science. [p. 12](#)

SYSTEM PROFILE
Complex food
plant expansion
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2023 Onsite Installer **BUYER'S GUIDE**

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INSTALLER PROFILE: Like Father, Like Daughter

By Ted J. Rulseh

ON THE COVER:
Minnesota onsite designer Stacey Feser was inspired by her father to build her own business. Feser and her father, Bob Burns, release a core soil sample, using an AMS Power Probe 9110 mounted on a Kubota RTU X900 utility vehicle. (Photo by Brad Stauffer)

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Contractor Profile: Island Service in the Pacific Northwest

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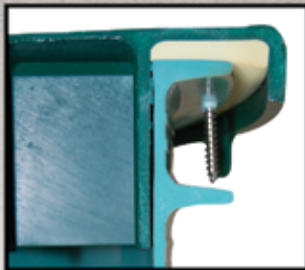
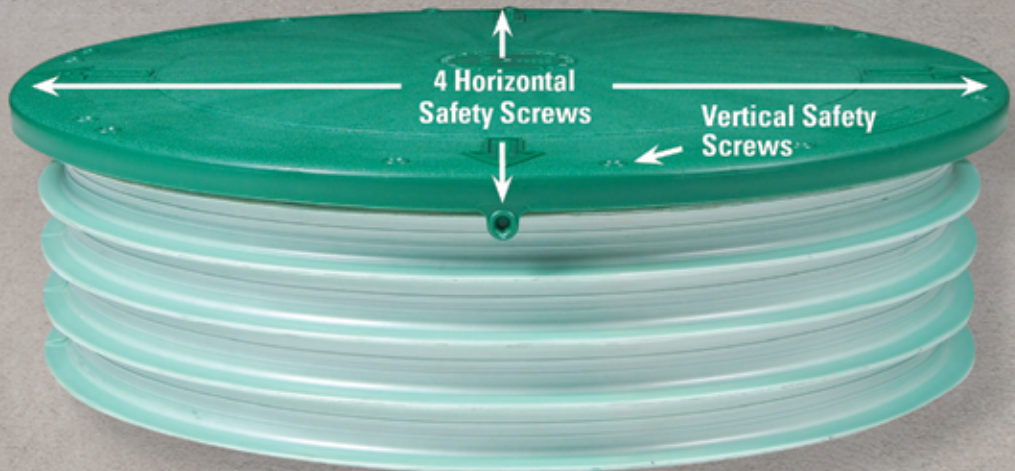
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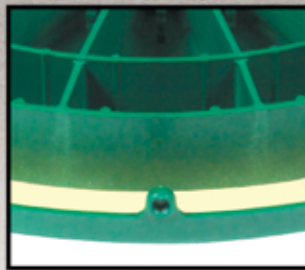
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- Easy to clean

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Injection molded T-Baffle™.

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



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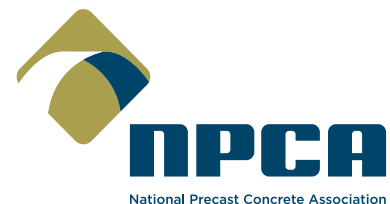
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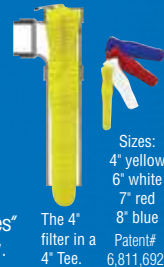
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A Round of Applause For Jim Anderson and Dave Gustafson

Our septic expert columnists are calling it quits after many years of education excellence

This month marks a big change for our *Onsite Installer* editorial family. This issue carries the final Basic Training column in the long careers of Jim Anderson and Dave Gustafson. Anderson, Ph.D, and Gustafson, P.E., have deep roots in the industry working through the University of Minnesota onsite wastewater treatment education program.

Jim is the former director of the university's Water Resources Center, retiring from full-time work in 2017. Dave continues as Extension Onsite Sewage Treatment Educator. Together they formed a formidable onsite training team that traveled the country bringing the latest wastewater treatment techniques to installers. Between 1997 and 2017, they were really the backbone of education for the industry.

Many installers were lucky to see the pair work a crowd at memorable seminars, especially in large rooms at the Pumper & Cleaner Environmental Expo International, now known as the WWETT Show.

Like the great comedy duos of the past — Abbott and Costello, Laurel and Hardy, Stiller and Meara — these two knew how to entertain, conducting lively and educational training sessions. I was fortunate to sit in on many seminars with Dave and Jim and always came away with a smile on my face and many valuable nuggets of onsite information.

Dave is the gregarious performer, working up the crowd to participate and always cracking jokes. Jim is more professorial in his demeanor, but not above sharing some dry humor of his own. Together they were effective presenters, introducing hundreds, if not thousands, of installers to the principles of decentralized wastewater treatment.

Their contributions to the industry in 30 years are immeasurable, but not unrecognized. Both men were bestowed one of the decentralized wastewater industry's highest honors, the Ralph Macchio Lifetime Achievement Award; Jim in 2007 and Dave in 2018.

BEGAN IN 2004

Under then-editor Ted J. Rulseh, Jim and Dave introduced Basic Training in May 2004, a few issues into the run of the new magazine dedicated to the installing community. They continued to produce the tag-team column uninterrupted for nearly 20 years, discussing a wide variety of technical topics. Throughout the run, they have kept pace with new techniques and technologies as they have emerged. But they have always stayed true to the basic principles of wastewater treatment.

Together they were effective presenters, introducing hundreds, if not thousands, of installers to the principles of decentralized wastewater treatment.

So it is fitting that this issue's column repeats the simple rules they introduced in their first column, elaborating on the three acronyms that offer a common thread to all of their training over the years, KILL, KINN and KISS. You'll have to turn to their column for more of an explanation.

We all owe a debt of gratitude to Jim and Dave for many contributions they've made to advance the onsite industry. Their career-long dedication to educating installers has boosted professionalism among technicians and ultimately resulted in more reliable, more economical systems and cleaner effluent moving into the environment.

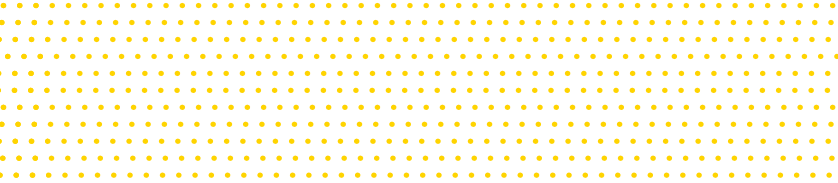
Just because Jim and Dave are stepping away from the monthly column, that doesn't mean we'll be without someone to take on the role of onsite expert in the magazine. Stay tuned in June when we'll introduce a new columnist ready to address important technical issues and answer your questions. We're excited to be able to continue offering advice from a respected educator in the field and in the classroom. More to come on that later.

And now for a few *Onsite Installer* house-cleaning items:

We need your feedback

A trade publication is better when communication goes two ways. It's not our duty to simply *speak* to you, but to carry on a conversation *with* you to help the installer community. For that reason, I'd like to invite you to share your opinions freely with the group. That can take on a number of forms.

For example, please feel free to send comments or story suggestions to me at editor@onsiteinstaller.com. We are always grateful to hear from readers and use that feedback to make this a better publication. Also, you can write a letter to the editor on topics of importance to you and the



industry. Keep them to 500 words or less and send them to the same email address.

Would you rather post your comments and reactions to stories immediately? Visit www.onsiteinstaller.com and start a discussion at the end of an article. It's quick and easy and we reply to comments or questions as soon as possible. Or go to our Facebook page and comment directly for others in the industry to read and respond. Our social media channels are a great place for installers to come together virtually, the same way they might meet up at the WWETT Show.

A video reminder

About a year ago, I invited readers to share videos of their crews working with an offer to post those videos on the *Onsite Installer* website. That offer still stands, as we would love to populate the website and our social media with videos of your folks working machines, laying down a drainfield, or showing any other field procedures you think would be interesting. This is a great way to share working techniques you find effective so we can all learn something new. It's also gratifying to showcase the teams you rely on every day. We'd like to honor them for their hard work. Just grab your smartphone and start shooting, then send me the files. We'll do the rest.

What's in the works for 2023?

We're calling out for interesting system installations this summer! Take a look at your project list for the coming months; is there a job you think would be unusual or interesting for our readers? Challenges could include unusual site restrictions, massive gpd rating on a small footprint, a waterfront property with many treatment requirements, utilizing a new technology for the first time in your area. Or maybe you're set up to contribute a system for a charity project, something like Habitat for Humanity, giving a veteran a helping hand, or supporting a worthy nonprofit group. Whatever the case, we want to know about the interesting projects on the horizon that we might choose for a System Profile story. ◻

DROP US A LINE

Have a comment about an article you've seen in *Onsite Installer*? An experience from a job that you'd like to share? *Onsite Installer* would love to hear from you. Email comments and photos to editor@onsiteinstaller.com.



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+12 gpm @ 3000 psi +400' x 1/2" Jet Hose
+800 cc EFI Honda Engine on DC Powered Reel

(100 GALLON TANK) **Call for Quote**

NEW



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INSTALLER PROFILE

» Stacey Feser examines a soil sample. The sample will be important to determining what type of septic system to install on the building site. Her father, Bob Burns, looks on. (Photos by Brad Stauffer)



LIKE FATHER, LIKE DAUGHTER

Stacey Feser drew inspiration from her dad, an onsite installer. Today she's a designer, installer inspector and university instructor in soil science.

By Ted J. Rulseh

Stacey Feser grew up observing and working in her father's onsite installation business. One memory from her teenage years stands out.

"He was digging a basement for a house," she recalls. "I thought it was just crazy that the soil color changed, from dark topsoil to brown subsoil. I didn't understand why at the time. It sparked an interest."

Fast-forward a couple of decades and she holds a master's degree in soil science from the University of Minnesota and operates Feser Environmental (pronounced "Fesser") in Le Sueur, specializing in onsite system design and compliance inspections.

She works closely with her father, Robert Burns, whose Burns Construction business focuses on system installation. "I do the designs and inspections through my company," Feser says. "If we get an install, that is run through Burns Construction. We work together. Some days he works for me when we're doing a design. Some days I work for him when we're doing an install."

Both are solo practitioners, working in six counties around their home base in the Minnesota River Valley, about 50 miles south of the Twin Cities.

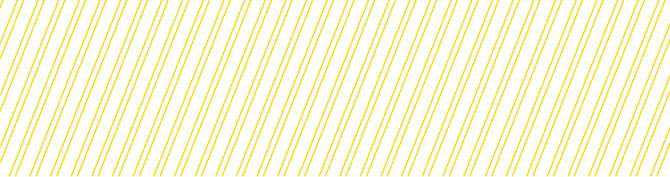
A CHANGE OF FOCUS

Growing up in Le Sueur, Feser dreamed of becoming an emergency room doctor. After high school she enrolled at St. Catherine University in St. Paul, planning pre-med studies. "For my first biology class, they had a cadaver in the lab that we could go and look at," she says. "I went in super excited thinking, 'This is exactly what I came to school for.'"

"I got in there and immediately couldn't handle the smell, couldn't handle seeing a dead body. And I thought, 'OK, this path is not for me.'" She stayed at the school for three years, switching to environmental classes and playing on the volleyball team.

For her senior year she transferred to the University of Minnesota, earning a degree in environmental science with a soil science emphasis. She then earned a master's degree in soil science there with a minor in water quality.

Under a research assistantship she worked at the university's Southwest Research and Outreach Center in Lamberton, studying controlled drainage



and comparing soil characteristics in a never-cultivated native prairie and a farm field with tile drainage installed: “That was my start in the soils profession.”

After college she took a job with Blue Earth County as a septic and wetland regulator. Eight years later, in 2015, she returned to Le Sueur to work with her father, while also launching her own company. “Dad never wanted to get the inspector’s license or some of the advanced licenses for designing larger systems and systems to treat high-strength waste,” Feser says. “He didn’t want to carry that liability on his insurance. That’s why I created my own company.”

LEARNING DESIGN

Feser developed her design expertise in part by observing her father, but mainly through her work with Blue Earth County. “There you’re reviewing all the designs, going out with the different contractors, reviewing their work and seeing how they design systems,” she says.

“There are many ways to choose a site and figure it out. The experience of walking through the process with different people was really helpful and eye-opening. I got a lot of in-depth experience at the county, but with a solid background in understanding the why and where after working with Dad.”

Mound systems are common in southern Minnesota because the soils tend to be finer-textured



▲ Stacey Feser, right, poses with her parents, Bob and Jean Burns.



Feser Environmental

Le Sueur, Minnesota

- Owner:** Stacey Feser
- Founded:** 2016
- Services:** Onsite system design, installation, inspections
- Service area:** Six counties in southeastern Minnesota
- Certifications:** Advanced Inspector, Advanced Designer, Installer and Service Provider
- Affiliations:** Minnesota Onsite Wastewater Association

loams and clay-loams: “We work in areas where glaciers sat for thousands of years and did a good job of compacting our soils. We don’t have the best water movement through those soils.”

A common challenge is fitting systems on small lots around lakes with, on average, about 50 feet of frontage. “Even 100 feet of width sometimes isn’t big enough when you have to figure in parking, garages, boathouses and other features,” Feser says. “If you have hilly topography, that makes it even more challenging.”

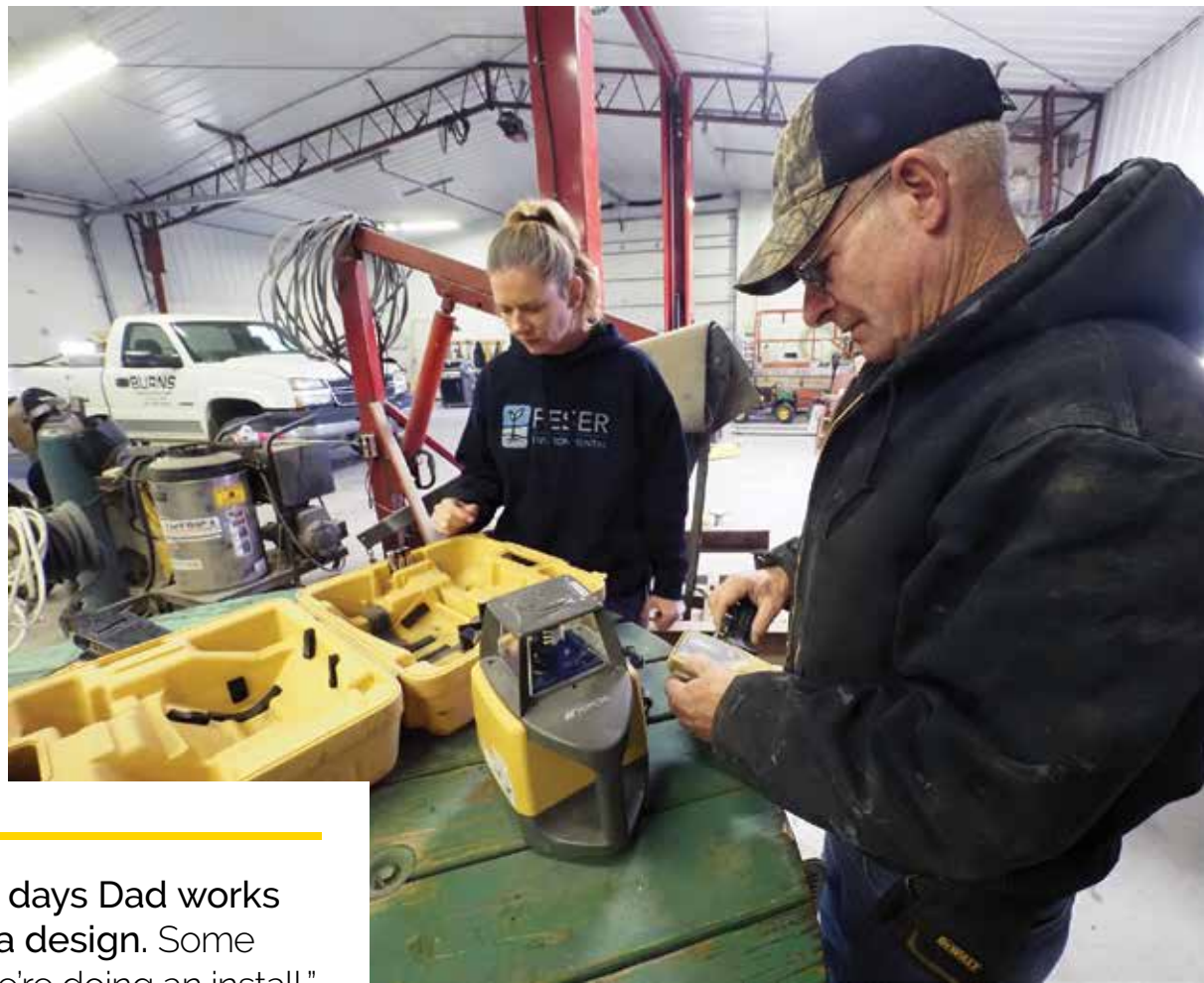
“Our lakes down here aren’t very deep. You go to northern Minnesota and most of the lakes have nice sandy bottoms and beautiful clearwater. In southern Minnesota we have more mud-bottom lakes, and our clarity isn’t very great. We have a lot of agricultural runoff, which has ignited eutrophication and algae growth in some of our lakes.”

>> Feser and her father, Bob Burns, work in the company shop, prepping a Topcon laser level for use in the field.

Many property owners are converting small seasonal cabins to lake homes. That means fitting systems on sites never meant to be used for year-round dwellings. Many of the lots have soils that have been cut, filled or moved around. “So in trying to navigate the soil conditions, we’re often taking up basically the entire yard with a system,” Feser says.

MAKING IT WORK

Often the solution to the design challenge includes installing larger



“We work together. Some days Dad works for me when we’re doing a design. Some days I work for him when we’re doing an install.”

Stacey Feser

pump tanks and then time-dosing the flow to the drainfield: “Then the owners have much better control of water usage, and a much better idea how much water they use. They can say, ‘OK, I can’t use that much because my high-water alarm goes off when I do all my laundry and run the dishwasher all in one day.’”

“They learn that they need to spread their water usage out a little bit, check for leaky toilets, and all those things people don’t usually think about but can have an impact on their system.” Electrical panels with event counters and elapsed-time meters from SJE Rhombus can help Feser diagnose and troubleshoot issues related to excessive water usage.

Sometimes aerobic treatment units help solve problems by enabling reductions in drainfield size or the vertical separation between the drainfield and groundwater. That can enable an in-ground system to work instead of a mound. Some counties offer that benefit; others do not.

In any case, ATUs are the exception. “It’s generally not a go-to thing, because the maintenance, monitoring and electrical bills are pretty intense. Those things push people away from that direction,” Feser says. “Restaurants and other applications where we have high-strength waste – that’s where we put them in, because it’s absolutely necessary.”

Feser holds a service provider license that enables her to do the required maintenance on ATUs the company installs (eight such systems to date). She prefers Delta ECOPOD systems (Infiltrator Water Technologies): “I like that one because the maintenance is easy. You can access the whole system from the manhole covers. If there are any issues with blowers, valves or anything like that, it’s handy getting in there to fix things.”

A BALANCED LIFE

Business growth is not at the top of Stacey Feser’s agenda. At least for the near future, family comes first.

“I don’t have a whole lot of interest in doing multiple systems,” Feser says. “I just take them in as I get them.” Her kids, ages 12, 10 and 8, are busy with sports and other activities. She and husband Nick take them on road trips in their RV: “We’re trying to make that a priority for them while they’re still young and want to hang out with us.”

She and Nick are involved in their home community of Le Sueur, Minnesota. Nick is a member of the fire department and leader of their son’s Cub Scout den. Stacey is the varsity volleyball coach at Le Sueur High School.

Their older daughter plays volleyball and softball, their son is involved in football and baseball, and their younger daughter is just reaching the age where she can play sports. Feser observes, “My time is very precious.”

As for work life, “I want to continue where I’m at, teaching at the University of Minnesota, working with my dad. He’s getting close to retirement. I love working with him. We have our own language. We communicate easily, we get along very well, and we have fun. I want to continue that for as long as I can.”



◀ Stacey Feser checks a core sample for a system installation, consulting with the Munsell Soil Color Book.

↕ Feser is at the controls of a Kubota KX121-2 mini-excavator while her father, Bob Burns, looks on.



THE TOUGH JOBS

High-strength waste and cluster systems present some of Feser's toughest yet most satisfying projects. She cites a cluster system for 32 houses on Lake Francis where many of the septic systems were failing. To tackle the job she teamed with installer James Bros. Construction out of Elysian.

"It was the installer who asked me to design the system," Feser says. "He knew how he wanted to do things. We figured out the best approach for getting all the houses together and having a large enough drainfield area. They ended up purchasing acreage in a farm field to put the drainfield on."

"It was a lot of coordination. It took us about two years to get the system designed, permitted and installed. That also involved the legal paperwork for creating an association and securing all the easements to run the lines. It was a lot more moving parts than I initially thought it would be, but it has been running for five years and has been working really great." The cluster actually consists of two systems, each designed for just under 5,000 gpd.

Another big project involved a 1,500 gpd system for a golf course with a restaurant and event venue. It used a Nibbler ATU (Aqua Test), well suited for high-strength waste from the kitchen. "The

"Restaurants and other applications where we have high-strength waste – that's where we put ATUs in, because it's absolutely necessary."

Stacey Feser

golf course had plenty of space, so we had no problem finding a nice drainfield location," Feser says. "They specifically liked the at-grade system we installed. A lot of times we hear, 'I don't want one of those mounds in my yard.' The golf course people were very accepting."

When not designing onsite systems, Feser is often inspecting them, most often for homes at the time of sale. The six counties where Feser Environmental works have different requirements. Some don't require inspection at property transfer.

"Most of them require it for any type of construction permit," Feser says. "In the last few years the banks are the ones pushing inspections. They want to see the compliance inspection report, and then they want to see the new system, if necessary, installed before closing. Ninety percent of inspections are for property transfers, and the rest are for new building permits or additions."

“The more informed we can make the property owners, the easier will be for us as installers and designers to maintain systems and keep them working for years and years to come.”

Stacey Feser

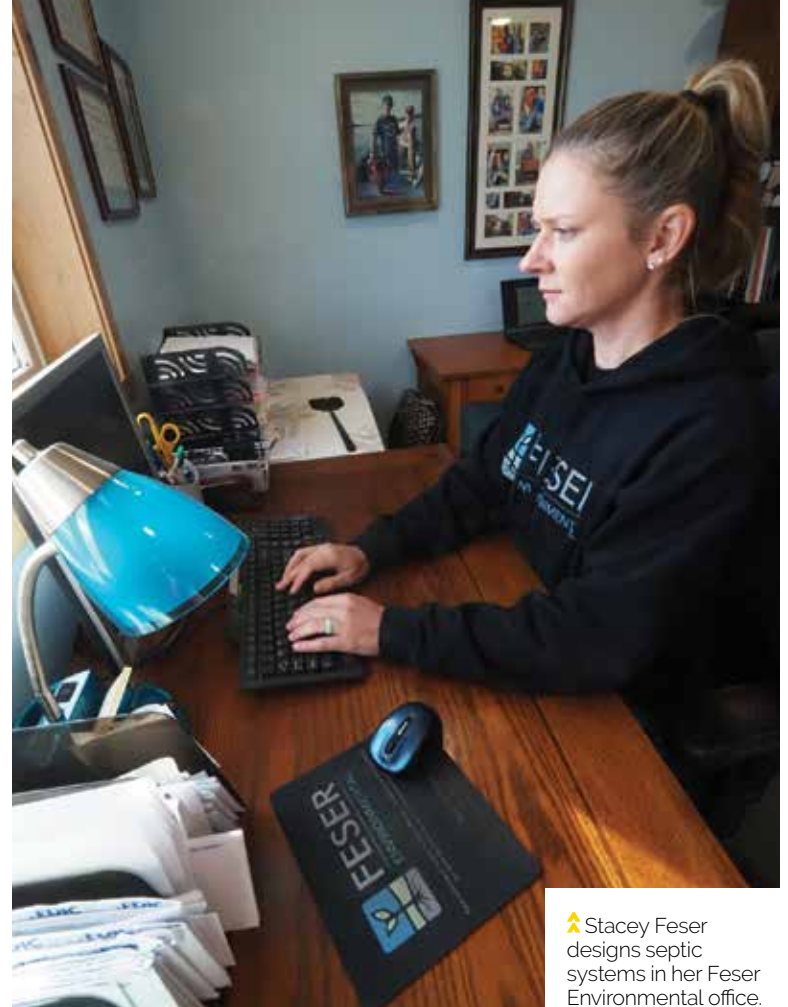
TEACHING TIME

In marketing her business, Feser relies mostly on referrals. “There is an abundance of work, but not many of us who carry the abundance of licenses to be able to do that work,” she says. “I know all the other advanced designers. We talk to each other and share referrals.”

“Plus, when I was a regulator in Blue Earth County, I had great relationships with all the contractors. They call and ask me questions, or if they need help on a design, they call me and I work with them. I’m not viewed as a big competitor to their businesses. I’m more like a resource. They can send things my way, and I can send things their way.”

Feser also devotes time from May through October to her 25% position teaching soils classes at her alma mater. She teaches the basic three-day soils class that’s part of the designer license requirement, and also teaches the continuing education soils courses.

continued >>



▲ Stacey Feser designs septic systems in her Feser Environmental office.

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As if that's not enough, she is in her seventh year on the board of the Minnesota Onsite Wastewater Association and became president in early 2022. She values that largely for the networking. "Through teaching I meet a lot of people, but it's more in passing and I don't get to establish great relationships with them. Through MOWA board, I've been able to get to know people who are on the board and meet people at the annual convention. Being involved through that route has been wonderful.

"The biggest thing I've learned is to share knowledge. I try to make property owners feel like I'm here because I really enjoy the industry, and I want to make sure that our environment is safe and healthy for my kids and their grandkids. Pulling together the environmental consequences and the knowledge of wastewater is important.

"Homeowners often don't understand the connections between a lot of those things. Taking time to walk them through the connections helps with all the steps that come after: the design, the install, and the choices they make when they're in the house using water.

"The more informed we can make the property owners, the easier it will be for us as installers and designers to maintain systems and keep them working for years and years to come." □

▲ Stacey Feser and Bob Burns gather PVC pipe to be delivered to a work site for use in a drainfield.

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Jim and Dave Go Back to the Basics One More Time

The industry has advanced greatly in our time, but the principles of good onsite system design remain unchanged

By Jim Anderson and Dave Gustafson

It doesn't seem possible, but we have worked together conducting workshops, presenting at conferences and, for the last 20 years, written this column together. Everything eventually comes to an end. This will be the last Basic Training column we do together.

Over 30 years, we have seen and been a part of the industry making great strides on all fronts. Equipment and technologies have changed significantly. Professionalism on the part of technicians, sales personnel and government officials has increased dramatically. There is now a broad range of new products covering all aspects of our systems. In general, they are easier to use and more technical in nature. The speed of adoption of new products and technology across the board has been impressive.

While all of this is true, we still rely on the soil for the final treatment and dispersal of effluent. The single most common mistake on the part of installers in general is the misinterpretation of the soil they are working with. Therefore, we thought it would be appropriate to leave where we started, with the three most important principles to good drainfield installation. Some of you should know these by heart. If this is your introduction to them, remembering them will help you avoid a lot of problems in the future.

FOLLOW THE RULES

The principles we refer to are KILL (keep it level _), KINN (keep it natural _) and, KISS (keep it shallow_). The final letter in the principles as it always has been is left for you to creatively fill in!

Keep it level refers not only to keeping sewage treatment trenches and the top of the treatment media level; but it means installing sewage tanks on the level and at the proper orientation. Nothing should be eyeballed in; it should be carefully planned and laid out with differences in elevation noted before the first scoop of soil is excavated.

To this day, while troubleshooting systems, we see where trenches have not been maintained on the contour. One note here: piping between system components should be laid on the proper slope. To ensure level components and proper pipe slopes requires use of a level.

Keep it natural refers to using undisturbed soil for installation of the final treatment and dispersal area, whether that involves below- or above-ground treatment units. It means protecting the soil treatment area from pre-installation disturbance and taking care during installation to not cause compaction or smearing during trench excavation. It means keeping the proper separation distance from any regional or seasonal high water tables.

In the case of mounds and at-grades, it means keeping the original soil

Being able to recognize soil features indicating periodic saturation and differences in permeability are important skills for installers, site evaluators and government officials.

surface intact. The original soil surface should not be removed and saved for future topsoil use but left in place with the green side turned down. The soil surface in general is the most permeable and best treatment part of the soil and should be utilized as such.

It also means not working the soil when it is too wet. The moisture content of the soil at the depth of excavation or scarification needs to be less than the plastic limit. This can be determined in the field by attempting to roll a palm full of soil into an 1/8-inch ribbon. If a ribbon can be formed, don't dig!

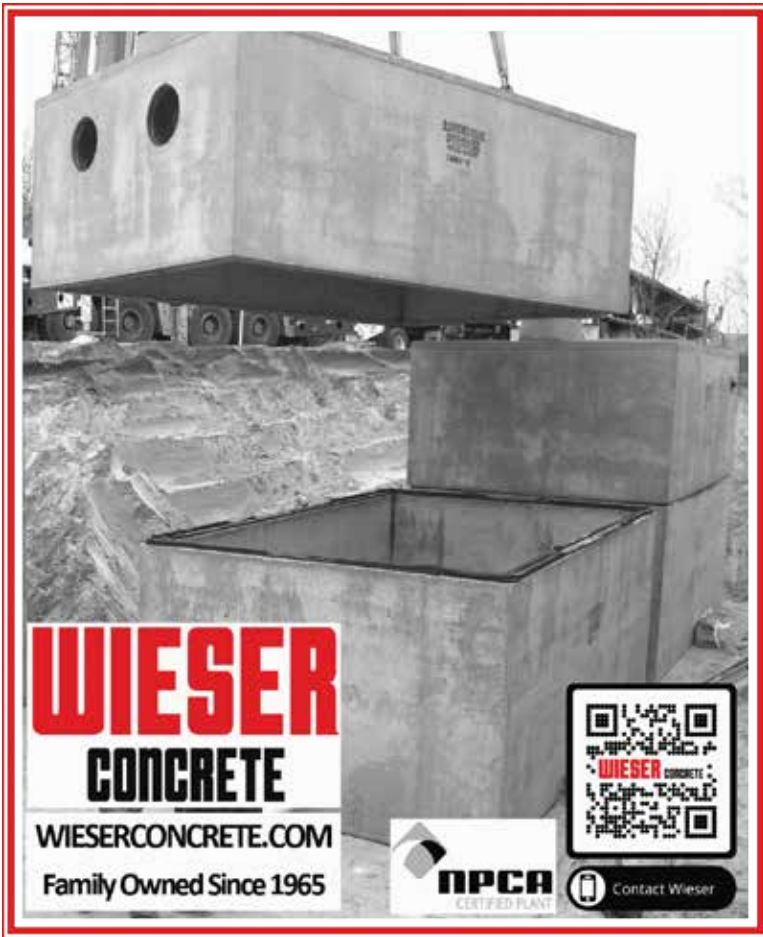
Keep it shallow refers to maintaining proper vertical separation distances from any limiting soil conditions. Examples of limiting conditions include high water tables, bedrock and dense soil layers. Being able to recognize these conditions is important to proper location and elevation of the soil treatment area. Being able to recognize soil features indicating periodic saturation and differences in permeability are important skills for installers, site evaluators and government officials. Recognizing and understanding redoximorphic features is a key part of identifying wet soils and setting depths of excavation.

If you are uncertain about your interpretation, find a soil scientist to help. Keeping it shallow also means installing the system close to the surface in the most permeable and biologically active soil horizons to maximize the ability of the soil to accept and treat sewage effluent.

TIME FOR THANK YOU'S

If you pay attention to these basic principles, you will become known as the installer to go to in your area for long-lasting systems.

We would be remiss if we did not thank everyone at COLE Publishing for allowing us to write these columns. The editors and other personnel have been great to work with all these years. Hopefully we will still see each other from time to time in the future. And lastly, thanks to the readers for continuing to take an interest in Basic Training. □

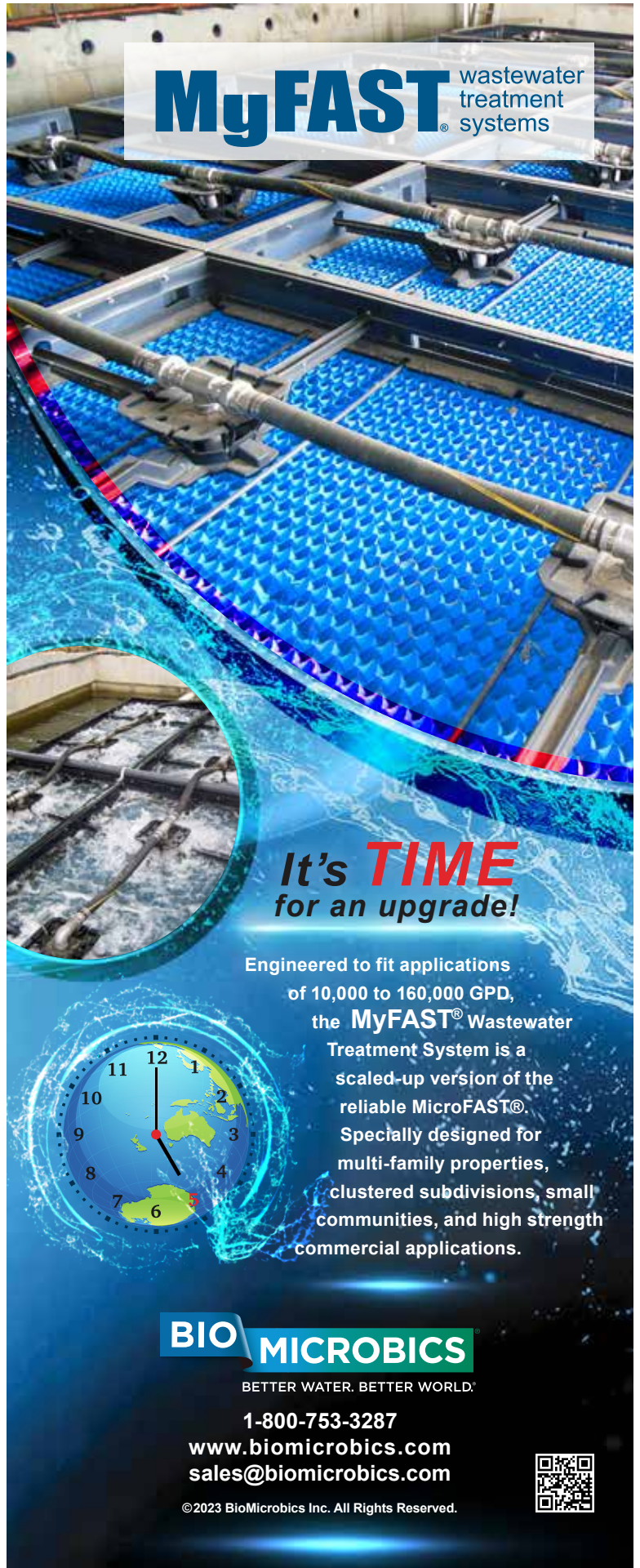


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Food Plant Expansion Prompts Addition of Orenco AdvanTex System

Large tankage, and wood chip denitrification and alkalinity augmentation help efficiently handle effluent for the Oregon commercial system

By David Steinkraus



A food processing plant in eastern Oregon was growing and needed a new wastewater system. Brian Rabe had designed the previous system installed in 2013 and was called back for the expansion.

When he designed the expansion he was managing soil scientist at Valley Science and Engineering in Albany, Oregon. Now he is semi-retired with his own company, Elkhorn Consulting, based in Baker City, Oregon.

The 2013 system was essentially an oversized residential system intended for a maximum work force of 167, he says. The new system is good for up to 500 workers, employs different technologies including a pair of wood chip beds, but keeps the same drainfield.

That drainfield had originally been slightly oversized and was capable of absorbing 1 gallon of effluent per linear foot per day, Rabe says. Advanced treatment in the new system increases dosing to 3 gallons per linear foot per day.

The system

From the processing building, wastewater flows through a 4-inch pipe into a two-compartment 13,000-gallon Xerxes tank from Shawcor. The first half of the tank is used to settle solids. One feature of this tank, Rabe says, is an inlet that has no sanitary tee and is placed 4 inches above the outlet. This is something he learned from Dan Bush, one of his mentors, and he uses it to keep the inlet clear.

«Codey Johnson of Bruce Johnson Construction works on the set of new 3,000-gallon tanks used in the system expansion in Ontario, Oregon. Tank outlets were set low, and inside are wide tees that pull water from the corners of the tanks. This ensures water will be removed from the entire tank instead of flowing only through the center. (Photos courtesy Brian Rabe and Doug Johnson)



System Profile

- Location:** Ontario, Oregon
- Facility served:** Wholesale food processor
- Designer:** Brian Rabe, Valley Science and Engineering, Albany, Oregon
- Installer:** Bruce Johnson Construction Inc., Boring, Oregon
- Type of system:** Orenco AdvanTex with wood chip denitrification and alkalinity augmentation
- Site conditions:** Surface textures mainly silt loam, clay loam at depth, soils part 9 years ago
- Hydraulic capacity:** 7,500 gpd

◀◀ Doug Johnson of Bruce Johnson Construction utilizes a trench box for safety and a Volvo EC160 to dig the hole for the 13,000-gallon Xerxes tank that begins the treatment chain for the Ontario, Oregon, project. The Xerxes tank was so light that it could be set with the EC160.

▼ Codey Johnson of Bruce Johnson Construction works on plumbing while Doug Johnson runs the Volvo EC160, which was used for most of the excavating. In the foreground is the Xerxes tank that is the first step in treatment. At center left are risers for the six concrete tanks that provide equalization, treatment and dosing of the AdvanTex AX100 pods pictured just above the risers. Slightly visible at the left edge of the picture are the wood chip beds used for denitrification.

In the usual tank arrangement with a sanitary tee and an inlet set 2 inches high, incoming wastewater loses a lot of energy when it hits the wall of the tee, he says. Solids float and build up around the tee. Remove the sanitary tee and raise the inlet to 4 inches, and the energy of the incoming water pushes floating solids away from the inlet.

The previous system for the food plant proved the point, he says. “With the conventional sanitary tee in a concrete tank, they were having a pump truck out every week to help pull solids out of that tank.”

Next in the treatment chain are three 3,000-gallon concrete tanks saved from the previous system upgrade in 2013. These now provide additional settling, equalization, and primary treatment. The second tank has a 12-inch Orenco Biotube filter on its outlet. All tanks are from Waite Concrete Products of Canby, Oregon.

Next is a new set of three 3,000-gallon tanks. Outlets from the tanks are set low and use horizontal tees that draw water from tank corners. Without this, water can flow through the centers of tanks without much mixing, Rabe says.

The first of the new tanks is divided into one 2,000-gallon compartment and one 1,000-gallon compartment. Effluent flows from the first set of three tanks into the 2,000-gallon compartment. By gravity it flows into the next 3,000-gallon tank and along the way picks up alkalinity from a basin. (High nitrogen sources often require supplemental alkalinity to facilitate complete nitrification.)



Rabe says he’s used the alkalinity basin design before. It’s a 30-inch diameter PVC tank from Orenco. In the bottom installers build a square using 1-inch PVC pipe and fittings and drill holes in the pipe. The operator fills the tank as needed with calcium hydroxide powder from a hardware store. When the pump in a nearby basin turns on, water jets through the holes at 3 to 4 psi and dissolves the calcium hydroxide. A concentrated solution forms on top of the powder, and it flows by gravity through an outflow and into the wastewater stream from the second tank.

The third tank has four pumps, each dedicated to one of the four AdvanTex AX100 pods in the secondary treatment train. A thermostatically controlled heater warms air for the AX100s if the ambient temperature falls below 40 degrees.

SYSTEM PROFILE

Wastewater from the AX100 pods flows through a splitter basin that recirculates 40% of water to the Xerxes tank. The rest flows into the 1,000-gallon compartment of the first new 3,000-gallon tank. One pump here pushes some treated water through the alkalinity basin at 10 gpm and into the treatment flow.

Also in the 1,000-gallon compartment is another pair of pumps pushing effluent through 1 1/4-inch Schedule 40 PVC pipe to two wood chip beds for denitrification. Each bed is 30 feet long, 9 feet wide, and 7 feet high. Beds are uncovered and built with dimensional lumber and PVC membrane liners. Floats inside the beds control dosing.

Pumps in PVC basins on the end of each bed send treated water to the drainfield through 1 1/4-inch PVC pipe. Each bed feeds half the drainfield. Two six-way splitters dose 12 looped cells holding a total 2,484 linear feet of double bundle EZflow (1202H).

All pumps in the system came from Orenco, and an Orenco programmable panel with cellular telemetry manages the system and allows remote control by the operator, who is about a four-hour drive from the site. The control panel and other equipment are located in a small shed.

To do the job, a crew from Bruce Johnson Construction in Boring,



▲ The head end of the 13,000-gallon Xerxes tank shows the influent pipe and beyond the recirculation line and the influent line leading from the Xerxes tank to the first set of three 3,000-gallon tanks in the next stage of the treatment chain.

Oregon, primarily used a Volvo EC160 excavator. In tight spaces they used a Volvo EC35 mini-excavator. Material was moved with a Volvo L60 wheel loader. The Xerxes tank was set with the EC160, but the three 3,000-gallon concrete tanks needed an 80-ton crane. Aside from some 100-plus-degree days, which the crew handled by starting very early, the job went smoothly, says Doug Johnson from the construction company.

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“Since the sewage generated by the facility is almost exclusively from restrooms, it has a substantially higher nitrogen content than your typical residential source.”

Brian Rabe

Nitrogen problems

“Since the sewage generated by the facility is almost exclusively from restrooms, it has a substantially higher nitrogen content than your typical residential source,” Rabe says.

With modern low-flow fixtures, it is not uncommon for facilities like this to have total nitrogen concentrations in septic tank effluent between 135 and 230 mg/L, he says. A typical residence is likely to have about 60 mg/L nitrogen. Recirculation can do only so much. Start with 150 mg/L of nitrogen, and recirculation with additional residence time for passive pre-anoxic denitrification can drop that to about 40 mg/L, Rabe says.

It is likely the chips in the beds won't have to be replaced for many years, Rabe says, but when that happens, the use of two beds means one can be taken out of service without interrupting treatment. Early designs placed wood chips inside tanks, he says, but replacing chips through a 30-inch-diameter access hole is difficult, and you need a truck with a strong vacuum because the average pump truck cannot suck up used wood chips.

“So I thought, that's labor intensive and complicated. Let's make these open vessels where we can manage the liquid level. In this case we are plumbed out the bottom of these lined beds. If we need to, we can pump the bed down, dewater it without having to get a pump truck in, and then, with a backhoe, reach in there and scoop the spent material out,” he says.

Open beds aren't a problem in Ontario, Oregon, because it has a very dry climate, he says. For a couple of projects in wetter areas, Rabe says, he specified that chip beds be covered with the same PVC membrane used in the liner.

The food plant operates six to seven days a week year-round except for a two-week maintenance shut-down. After about a year of operation, the system effluent showed BOD of less than 7 mg/L, TSS less than 2 mg/L, total Kjeldahl nitrogen of 0.99 mg/L, and nitrate-nitrogen of 0.05 mg/L. Permit limits are 20 mg/L for all parameters. □

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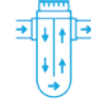
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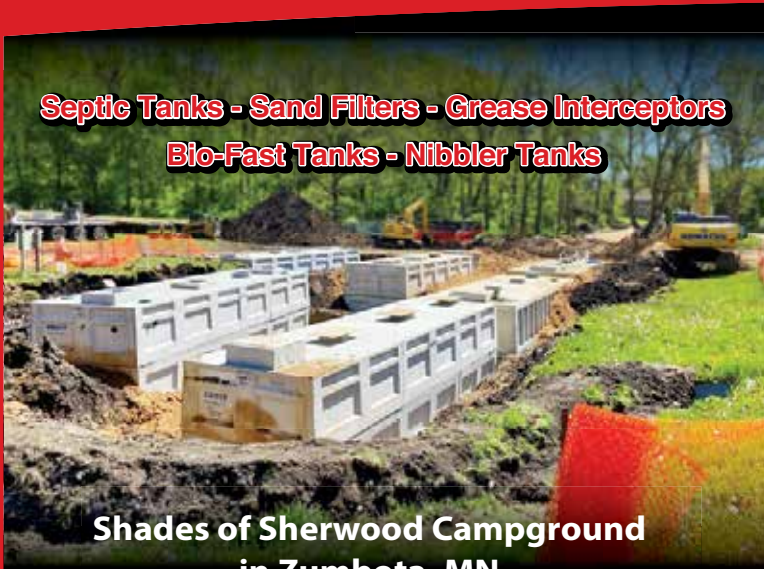
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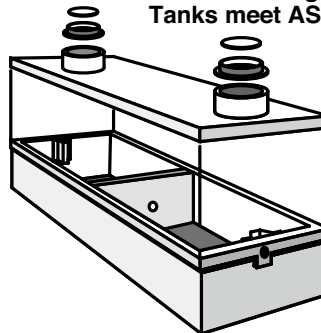
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Wheeled Skid-Steers vs. Compact Track Loaders

These workhorse materials movers remain popular; contractors just need to pick how they want to gain traction in the field

By Riley Simpson

Skid-steer or compact track loader? The answer depends on several factors — not the least of which is cost — but at the end of the day, there's room for both work horses in any stable.

Chris Sleight, managing director of Off-Highway Research, says that skid-steers' popularity peaked in the mid-2000s, when sales were around 65,000 units per year.

Since then, compact track loaders have taken the lead, and last year the market was about 55,000 to 65,000 units, compared to approximately 30,000 to 35,000 for skid-steers. But that shift has plateaued, and although their popularity has declined, skid-steer loaders remain a sizable part of the construction industry.

"You could also say that this type of machine is more popular than ever," Sleight says, referring to both skid-steers and CTLs. "Combined sales are getting close to 100,000 units, whereas it was only 65,000 at the last peak, when the wheeled version was the only game in town."

Let's compare the two versions of this machine through three lenses: areas in which CTLs excel, areas in which skid-steers have an advantage, and what's on the horizon for these machines.

GOING TRACKS

At their core, skid-steers and CTLs are the same machine with one main difference: tracks instead of wheels for CTLs. "Track loaders and skid-steers serve many of the same functions on a job site," says Blane Burroughs, Kubota CE product specialist. "Choosing between tracks and wheels can boil down to the terrain you will be operating in."

The consensus is that skid-steers work best on solid ground and tracked loaders can work in almost any environment. Due to the low ground pressure and high traction force, contractors often use CTLs on softer terrain such as mud, sand, gravel or turf.

TOP PHOTO A wheeled skid-steer like this Case model provides fuel and load-carrying efficiency when moving a lot of material. (file photos)

BOTTOM PHOTO

This Kubota compact track loader offers a lighter touch navigating ground with loose soils.



Not only can CTLs adapt to different terrains, but they are also flexible when it comes to conditions, according to Adam Devins, global product manager for Wacker Neuson. “Operators in general will go toward CTLs because they can operate more days of the year in most places, especially in a landscape setting,” he says.

So if CTLs can work anywhere, where do skid-steer loaders hold an advantage?

OR WHEELS

Although the skid-steer’s wheeled design means a smaller surface area and more pressure on softer ground, as well as a higher chance of sinking, skid-steers make their case by providing better value on harder surfaces, Devins says. Skid-steers are faster and more agile on asphalt, concrete and hard-packed surfaces. “Speed is going to directly correlate to your efficiency,” Devins says.

Using a skid-steer on repetitive tasks, such as traveling back and forth across a nursery yard to move materials, increases an operator’s productivity and efficiency.

There’s also the subject of price: Skid-steer loaders are generally less expensive than their tracked counterparts, given their relative limitations. Devins says that in addition to the lower initial investment, skid-steers’ wheeled design makes them more efficient from a fuel consumption perspective. Also, the cost of ongoing maintenance with CTLs can be higher because even though both tracks and wheels wear out over time, tracks are more expensive to replace as there are more undercarriage components such as rollers, idlers and sprockets to consider.

Some of this can be operator dependent, Devins says, but these price factors should be considered when making a purchase. “In the right application, there’s a lower operation cost [for skid-steers],” Devins says.

THE TRENDS

Loaders have been fixtures on job sites for decades, and these machines have stuck around because of their willingness to adapt (see the rise of the CTL as the prime example). But even skid-steers have undergone changes while keeping their wheels.

As technology has improved over the years, manufacturers have advanced the engine and lift capacity, tipping load, hydraulics and other integral components of skid-steers to keep them “from being becoming a thing of the past,” according to Burroughs. “Although the skid-steer market has been in decline over the last couple of years, these machines are still a very popular choice amongst owners and operators.”

Updates over the past decade, as well as changes in the coming years, have been and will be implemented for both skid-steers and CTLs. Devins says some manufacturers have moved away from the original hand-foot controls, which require operators to drive with their hands and control the bucket with their feet. Now, many loaders come with hydraulic or electro-hydraulic controls that are more operator-friendly.

Patrick Baker, Kubota CE product manager, says key areas such as productivity, reliability and technology are priorities for the loaders. Skid-steers can utilize more hydraulically driven attachments than ever, and the machines are also beginning to feature smart attachment capabilities, in

“Track loaders and skid-steers serve many of the same functions on a job site. **Choosing between tracks and wheels can boil down to the terrain you will be operating in.**”

Blane Burroughs

addition to options such as rearview and 360-degree cameras for safer operation. Similarly, technological innovations including automation and smart attachments are key areas of focus in the CTL industry.

Although skid-steers and CTLs are seasoned veterans in the construction industry, they’ve persevered for this long because of manufacturers’ willingness to be flexible on behalf of operators’ and contractors’ needs. “Kubota expects growth in the skid-steer and CTL market over the next several years,” Baker says. □

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Riley Simpson is a representative of the Association of Equipment Manufacturers, an international trade group representing off-road equipment manufacturers and suppliers.

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Indiana's Dick Blazer is 72 and Still Going Strong

This veteran of 57 years in the onsite industry sees a day when a magic box in the backyard will recycle all your wastewater

Compiled by Betty Dageforde

In Snapshot, we talk to a member of a state, provincial or national trade association in the decentralized wastewater industry. This time we visit a member of the Indiana Onsite Wastewater Professionals Association.

Dick Blazer, owner

Business: Blazer Farms, Kokomo, Indiana

Age: 72. I don't know who's going to do this when us old people quit. Paul Harvey, in his radio show, *The Rest of the Story*, once asked an 82-year-old dairy farmer when he was going to quit, and the guy said he couldn't retire until his 101-year-old dad retired.

Services we offer: Installing, repairing, maintenance, inspections. The hardest thing we do is educating homeowners. We make a manual for them with all the do's and don'ts, articles from Purdue University, all the paperwork — the permits, drawings, soil information. We used to include a survey for them to fill out about their habits, water usage, how much they understood, but in 20 years we got none of those surveys back so we quit doing that. Very few people look at that manual. But now we're getting a few younger people who are requesting it in PDF form, which isn't a bad idea.

Years in the industry: I put my first septic system in in 1966 and I bought my first backhoe in 1972. I didn't get real serious about the excavating part of it until the 1980s when three years in a row our farming business didn't make enough money to pay expenses.

Association involvement:

There used to be two organizations, one in the north, one in the south, but in the early 1990s they combined to form the Indiana Onsite Wastewater Professionals Association, and that's when I got involved. I think I've held all the positions. I was the first guy they elected a second time for president. I was on the board for years. I've been chairman of the certification committee, I've taught classes, did field demonstrations, helped put the inspection program together.

Benefits of belonging to the association:

I like the networking, talking to other installers, learning what they're doing that's working better, what isn't working, sharing ideas, talking about best management practices. Anybody in this industry knows that one rule does not fit the entire United States so sometimes it's about best management practices.

Biggest issue facing your association right now:

Getting people involved. And the cost of being in the organization is also a big issue for some people. The guy that only puts one or two septic systems in a year can't afford the membership fee. Getting proper education is another issue in our industry. Just because you've been through the class doesn't mean you know how to do it. We've tossed out ideas like new installers should have to spend time with an experienced installer. I always love it when people come over and see what we're doing. You've got to learn somewhere and that's the best way — being on the job and just seeing what's going on. Putting systems in isn't terribly complicated but there are a lot of tricks to the trade.

Our crew includes:

Tommy Miron and Kyle Carroll work in the field. Greg Morgan is semiretired but makes sure we have material ready to go. He worked in the water industry for years and knows about all there is when it comes to electricity and sewer lines. He is a wealth of knowledge. Marcia Pierce is the secretary and answers phones. Jody Shaw handles business work and is our bookkeeper.

Typical day on the job:

My day usually starts at 5:30 or 6:00 in the morning. I'm in my "mobile office" (my truck) by 6:30, and that's where I'm at until I come home unless I'm in the backhoe or other equipment. I do paperwork there, I eat there — I live in there basically. I'm at an age where I can't really work a shovel any more but I run the equipment. I might get in the backhoe at 7:30 in the morning and not get out until 7:30 that evening.

The job I'll never forget:

I like challenges. If anybody in our area comes up with a septic situation they can't figure out, it ends up being me that gets it. It's not really jobs that frustrate me, it's people. But I get along really well with almost everybody. People seem to be more challenging since COVID. And

» Dick Blazer and a Bobcat 60G mini-excavator

septic work is more challenging, too, because people are home more and using a lot more water. More systems went into failure but people weren't working as much so they didn't have the financing for what they needed.

My favorite piece of equipment:

I love the Trimble electronic guidance system on my backhoe. It guides you where you're digging. There's also one on our dozer that we can just program to automatically grade everything just the way we want it. We also have one on our ditching machine, which we use occasionally for doing perimeter drains when it's a long way to an outlet.

Most challenging site I've worked on:

If somebody says you can't put a septic system in here, I say, 'Oh yeah? We'll see.' I am not going to give up until I have tried every possible thing. About half of our business is replacements. With new systems you have to play pretty close to the rule but with repair or replacements our state allows best judgment. The systems where you have to have the homeowner buy more property are a challenge, but that might be cheaper than having to move a well, for example.

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

We put a system into a very challenging site. We could not get our backhoe in the yard, we had to use our mini-excavator. The stone and aggregate all had to be dumped out in the front yard on the street. The lady said, "I didn't realize how complicated it was to put a system in. How in the world do you know when you're done?" I told her, "When you have no more grass left, we will be done." That was the case in her situation. There was nothing left in the front or backyard.

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

The industry as a whole is improving but getting new onsite system technologies approved in our area has been a very slow process. It's frustrating.

Best piece of small business advice I've heard:

I talked at the IOWPA conference one year on this subject. It was back in the 1980s when there was a recession and some companies didn't make it. So my talk was — the only two things you have to do is do what you say you're going to do and return phone calls. It's so simple but I can't tell you the number of people I've heard complain that someone won't call them back.

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

I'd probably either be a weatherman or a preacher. The weatherman can be wrong all the time and nobody seems to care. And I wasn't a preacher but my wife and I were youth sponsors for 30 years.

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

I think the industry is going to solve the onsite problem for homeowners. One of these days, and it's not far down the road — and it'll probably be in California where it starts — you'll use the water in the morning and drink it in the evening when you come home from work. There will be home waste treatment systems that'll just be in a box and it just takes care of all of it. Right



now it's way too expensive but one of these days it's going to be as cheap as putting a septic system in. □

An advertisement for SPI (Septic Products Inc.). The top left features the SPI logo in a large, stylized font. Below it, the text reads "THE MOST COMPLETE LINE OF" followed by a bulleted list: "• SYSTEM ALARMS", "• FLOAT SWITCHES", "• ON-SITE ACCESSORIES", and "• CONTROL PANELS". To the right, the text says "CALL TODAY 419.282.5933", "SEPTICPRODUCTS.COM", and "SALES@SEPTICPRODUCTS.COM". At the bottom, there are three images of different control panels, some with their covers open, and a cartoon character with large eyes and a wide smile. In the bottom right corner, there is a logo for "24 HOUR SHIPPING ON ALL CATALOG ORDERS!" with a small cube icon.

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www.azowra.org; 928-443-0333

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Arkansas Onsite Wastewater Association;
www.arkowa.com

CALIFORNIA

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

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

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www.cowra-online.org; 860-267-1057

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Florida Onsite Wastewater Association;
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Onsite Wastewater Professionals of Illinois;
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Indiana Onsite Waste Water Professionals Association;
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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

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

MARYLAND

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

MICHIGAN

Michigan Onsite Wastewater Recycling Association;
www.mowra.org

Michigan Septic Tank Association;
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MINNESOTA

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

MISSISSIPPI

Mississippi Pumpers Association;
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MISSOURI

Missouri Smallflows Organization;
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NEW HAMPSHIRE

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

Granite State Onsite Wastewater Association;
www.gsdia.org; 603-228-1231

NEW MEXICO

Professional Onsite Wastewater Reuse Association of New Mexico;
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NEW YORK

Long Island Liquid Waste Association, Inc.;
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Ohio Onsite Wastewater Association;
www.ohioonsite.org; 740-828-3000

OKLAHOMA

Oklahoma Onsite Wastewater Association,
918-727-7113

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.pasma.net; 717-763-7762

TENNESSEE

Tennessee Onsite Wastewater Association;
www.tnonsite.org

TEXAS

Texas On-Site Wastewater Association;
www.txowa.org; 409-718-0645

Education 4 Onsite Wastewater Management;
www.e4owm.com; 713-774-6694

UTAH

Utah Onsite Wastewater Association (UOWA);
www.utahonsite.org;
385-501-9580

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; 888-782-6815

Wisconsin Liquid Waste Carriers Association;
www.wlwca.com; 888-782-6815

PRODUCT NEWS

PRODUCT SPOTLIGHT

Product insulates against freeze issues

By Tim Dobbins

Maintaining a functioning septic system is essential, and when temperatures drop and freezing conditions set in, it may take some extra effort or equipment to keep them performing.

Bernie Miller, owner of Innovative Thermo Solutions, has worked with septic systems in areas where cold weather is prevalent for decades, and has recently noticed an increase in issues related to freezing.

“The need for a solution became very apparent when Minnesota state and local codes changed to require manhole covers to be at the surface to allow for proper cleaning and inspection,” Miller says. “Research confirmed our suspicion that the frozen soil surrounding the risers was allowing the cold to penetrate through the manhole risers and also allowing the heat from the tank to escape, lowering the temperature of the septage in the tank.”

The company went to work designing an insulation disc that would keep the cold out and the heat in. “With numerous prototypes and more testing, we finally landed on a design and started to work with the various manufacturing companies to finalize the product development,” Miller says.

The end result is the Thermo-Disc, a durable insulation disc that can be installed in the riser and removed in seconds with no special tools. The Thermo-Disc is designed to work with risers 23.5 to 24.25 inches. It is made from 2-inch water resistant XPS, closed-cell foam insulation with an R-value

of 10. Covering the foam on the top and bottom is a plastic contoured pan to provide strength and rigidity. Around the perimeter, users will find a flexible rubber seal made to friction fit in the riser for an airtight seal.

“We recommend the disc be installed as deep as possible in the riser or to the top of the lid,” Miller says. “In some cases, this is deeper than a person can reach.” In those situations, Miller recommends using a pole to push the disc down to the desired depth. The product also has a looped rope handle offset to the side that can be hooked for easy removal.

Miller says additional advantages of the Thermo-Disc is that it helps in maintaining active anaerobic bacteria in the septic tank. “When the temperature of the septage in the tank drops below 40 degrees Fahrenheit, the anaerobic bacteria become dormant and no longer break down waste, increasing BOD and TSS,” he says. “The addition of a Thermo-Disc has been proven to increase the temperature 10 to 15 degrees, keeping the bacteria active and the tank properly operating.”

Miller says one of the first customers to use Thermo-Disc had a tank and drainfield for a cabin that froze the previous three years, but since installation, the system has operated flawlessly throughout winter. **320-398-2705; www.thermodiscmn.com** □



NATIONAL

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

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ALBERTA

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

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Wastewater Association;
www.bcossa.org; 778-432-2120

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
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www.sowma.ca; 877-489-7471

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Massachusetts Lawmakers Fight Costly Nitrogen Reduction Proposal

By David Steinkraus

Proposed Massachusetts regulations to reduce nitrogen pollution on Cape Cod and in other coastal areas are stirring opposition among local governments and some state legislators.

To counter nitrogen pollution in state waters, the state Department of Environmental Protection proposes creating nitrogen-sensitive areas, which would cover watersheds draining into estuaries with a total maximum daily load for nitrogen. Towns in those areas would have to upgrade onsite systems to nitrogen-reducing systems within five years after the regulations are finalized.

Towns would have to use the best available technology, but that could include nontraditional technologies such as permeable reactive barriers filled with wood chips to remove nitrogen as water flows through. Towns may also be able to apply for watershed permits, which would extend the deadline for upgrades to 20 years with a goal of reducing nitrogen pollution by 75%.

Town officials in Dartmouth, Massachusetts, said they would build a coalition of coastal communities to oppose the proposed regulations. Local officials have criticized the DEP for a lack of transparency and omitting towns from the decision-making process.

In the meantime, two state legislators have filed a bill to stop the proposed regulations. The proposed law from state Sen. Mark Montigny, D-New Bedford, and state Rep. Chris Markey, D-Dartmouth, would put a hold on the regulations until the state creates a plan to help homeowners afford the cost of nitrogen-reducing systems. A large portion of New Bedford is on the edge of being designated a nitrogen-sensitive area.

“[Changes] need to be done in a way that doesn’t bankrupt the average working family,” Montigny told WPRI News. “It isn’t just because this is an expense ... protecting the environment is expensive, and we have to bear that burden. It was shocking and thrown at them without proper vetting from the public.”

Markey told *The New Bedford Light* that dozens of his constituents called and emailed him to oppose the regulations.

Michigan

Democrats say they plan to repeal a 2018 state law that weakened environmental rules. Last fall they won majorities in both houses of the Legislature for the first time in 40 years, and Democrat Gretchen Whitmer was re-elected as governor.

The law targeted for repeal was passed in the last days of the 2018 session, under former Republican Gov. Rick Snyder, and prohibits the state from passing any law stricter than its federal counterpart unless an agency director finds a “clear and convincing need.”

During a webinar on environmental priorities fDemocrats, majority floor leader Sen. Sam Singh said the law prevents the state from developing

standards that may be more effective than rules available from the federal government. One priority will be developing a statewide onsite code, he said. Michigan is the only state in the country without a statewide code for onsite systems.

Oregon

Food truck owners around Portland are learning about a wastewater regulation that could affect their business if it’s enforced.

Many food trucks use containers to store more than a day’s worth of wastewater from food preparation and dishwashing, but the containers violate rules from the state Department of Environmental Quality, reported KATU News.

Rule changes for food trucks were announced in early 2020, with a compliance deadline this year, but in 2020 the effects of the COVID-19 pandemic dominated the worries of food truck operators, and inspectors weren’t making in-person visits, said Leah Tucker with the Oregon Mobile Food Association.

Inspection program officials are working on a plan to allow food truck owners more time to comply with the wastewater rules. Tucker said having septage haulers pump directly from each food truck almost every day would be expensive for truck operators, and it would be almost physically impossible because of the limited number of pumpers in the Portland metro area.

Florida

A state senator leading a key subcommittee declared a focus of the coming year will be moving properties from onsite systems to municipal sewer systems.

“As we look at the nutrients that are continuing to leach into our waterways, particularly inland, we want to make sure that we’re doing all we can to support those municipalities, to make sure that those (nutrients) are not continuing to move into our water bodies and jeopardizing either our wildlife or our recreational opportunities,” said Sen. Jason Brodeur, R-Sanford, at a hearing of the Senate Agriculture, Environment and General Government Appropriations Subcommittee, which he chairs.

This year’s state budget contains \$125 million for onsite system conversions and upgrades, according to news reports.

Tennessee

The engineer consultant for Smithville has recommended the city adopt an ordinance prohibiting septic tank effluent pump systems installed by private developers. Daniel Tribble, manager of field services for J.R. Wauford & Co. of Nashville, said the reason for his advice was a state regulation from May 2022.

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The state decided that STEP tanks are integral parts of a municipal treatment system and should be owned or controlled by the municipality they're in, Tribble said, according to WJLE News in Smithville. The same regulation also applies to STEG systems, low-pressure pumps, and other onsite components feeding wastewater into a municipal system, he said.

What this means, he said, is the city would ultimately be responsible for maintaining the pumps of every city resident who had one of these systems, and that is not desirable in the long term.

Missouri

Taney County will again hold its onsite pumpout program in 2023. The program pays 100% of the cost of pumping a single-family residential tank. Residents are responsible for locating the tank and having the access hatch exposed for the pumper, said a press release from the county.

To save fuel costs, residents are also encouraged to talk to their neighbors in order to consolidate pumpout trips, said John Soutee, the county's environmental services program manager, according to the *Branson Tri-Lakes News*.

The county's sewer sales tax funds the program, which has serviced 3,925 septic tanks since 2014. □

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



Jeff Rachlin (center) was named the Ralph Macchio Lifetime Achievement Award winner at the 2023 Water & Wastewater Equipment, Treatment & Transport Show. Pictured with Rachlin are NAWT's Bruce Fox, left, and Bob Kendall, owner of COLE Publishing.

Rachlin Receives Ralph Macchio Lifetime Achievement Award at WWETT Show

Jeffrey Rachlin, owner of OnSite Management Inc. in West Chester, Pennsylvania, was named the winner of the 2023 Ralph Macchio Lifetime Achievement Award during a meeting of the National Association of Wastewater Technicians in February at the WWETT Show in Indianapolis. The award was presented by Ralph Macchio and Bob Kendall, founder of COLE Publishing.

The Macchio award is the highest honor in the pumping industry. Rachlin is the current treasurer of NAWT.

“Jeff has given countless hours to both his state association (Pennsylvania) and NAWT,” says Bruce Fox, who presented the award to Rachlin. “He’s conducted training sessions both throughout his state and the country. He has served various offices in his state association and even acted as executive director for several years when we lost our executive director at no charge to the association.”

Rachlin has also served several other offices within NAWT and took over as treasurer of the group when Macchio retired from that position.

“This was totally unexpected, but much appreciated,” Rachlin says.

Also at the NAWT meeting, two Hapchuk Scholarship Award recipients were announced. They are Nader Sharif from the University of Nebraska-Lincoln in Lincoln, Nebraska; and Piere Mbala of James Madison University in Harrisonburg, Virginia.

The group also elected officers for 2023. They are John Ferdetta, president; Jason Birdsong, vice president; Thomas Ferrero, secretary; and Jeff Rachlin, treasurer.

Infiltrator continues partnership with Habitat for Humanity

Infiltrator Water Technologies will continue to support Habitat for Humanity International. Infiltrator recently renewed its sponsorship with a \$100,000 in-kind product donation to support Habitat affiliates across the United States and Canada. Since becoming a corporate partner in 2017, Infiltrator has donated over \$543,000 in products for septic systems to 139 Habitat affiliates. Product donations are used in both new home construction and home repair projects led by Habitat.



Andrew Ross



David Gray



Marty Lehmann

Franklin Electric welcomes team members

Franklin Electric announced new customer-facing team members for its Industrial & Engineered Systems business unit. Andrew Ross will take on the role of senior business unit manager— Aftermarket, while David Gray and Marty Lehmann will serve as business unit sales managers for the Industrial Distribution and OEM business units, respectively.

Ross will lead the company’s aftermarket parts business, working with fleet and industrial distribution teams to provide parts and help customers maintain and increase the lifespan of their equipment. Lehmann will focus on bringing Little Giant’s growing product line to OEM customers. Gray will take over responsibility for the company’s industrial distribution customers in the Southwest region. □

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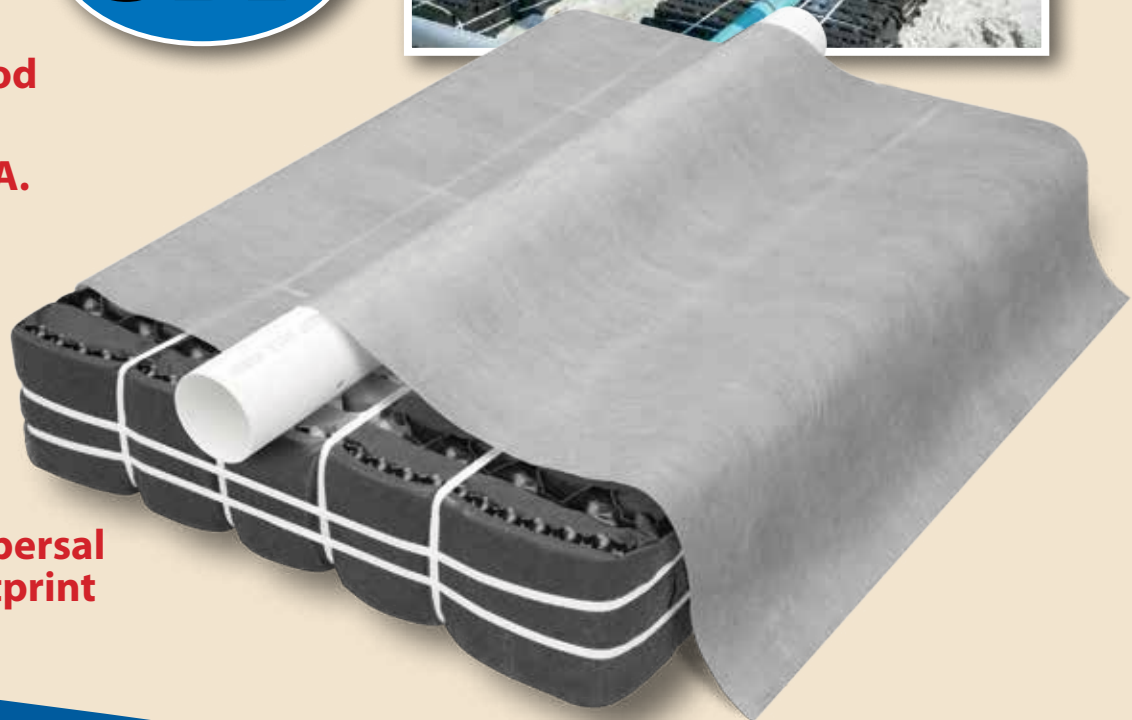
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TO LAST MONTH'S WORD SEARCH WINNER!

David Casaletto of H2Ozarks

Keep an eye out for our future puzzles and a chance to win an Amazon gift card.