

November 2020

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envirotek  
Septic Solutions

360-387-1731

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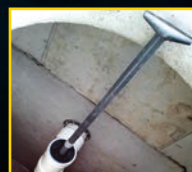
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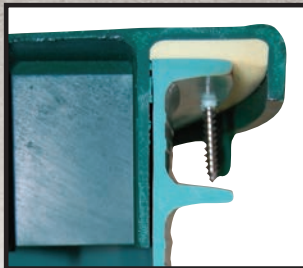
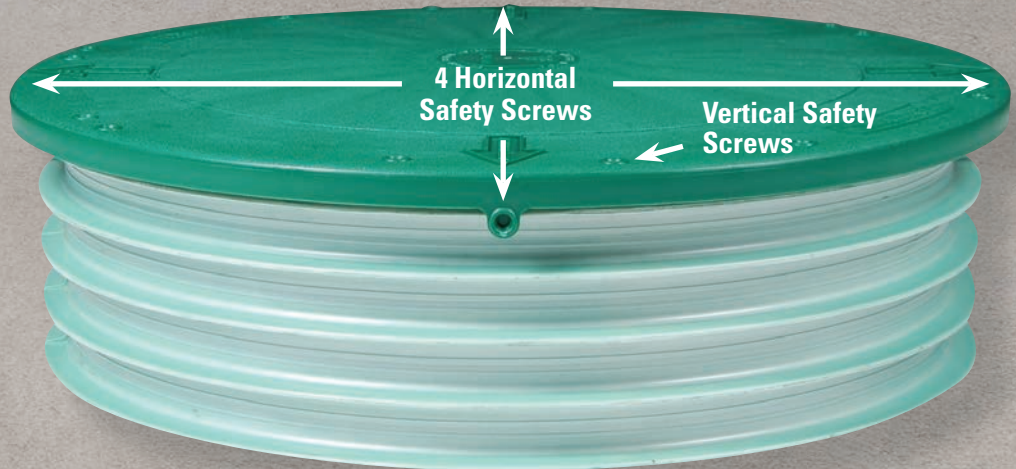
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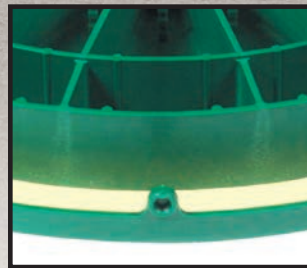
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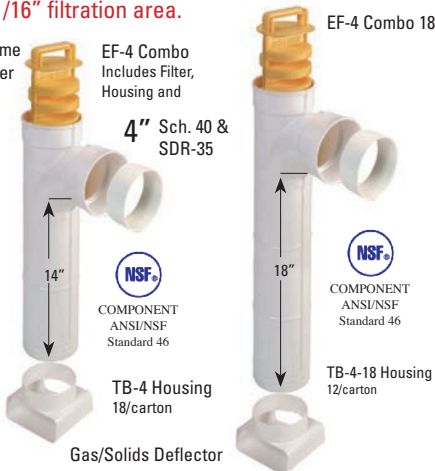


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### INSTALLER PROFILE: Always a Better Way By Ted J. Rulseh

#### ON THE COVER:

Washington state island-based Envirotek Septic Solutions offers diverse services, adding pumping to their excavation work. Owners Alan and Jen Chapin are shown with their 2012 International DuraStar with 1,870-gallon steel tank and a Jurop/Chandler PN84 pump, from KeeVac Industries. (Photo by Stephen Brashear)

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Be sure to check out our exclusive online content.

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Basic Training: Pressure distribution basics

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7:30 a.m.-5 p.m. Central time, Mon.-Fri.

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

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### EDITORIAL CORRESPONDENCE

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

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## Enjoy this issue!

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





Jim Kneiszel



Send your comments, questions or opinions to Jim Kneiszel at [editor@onsiteinstaller.com](mailto:editor@onsiteinstaller.com).

# It's Party Time – What Happens When Your System Is Tied to an Airbnb?

Short-term rentals can have a big negative impact on onsite installation. How can you protect yourself in case of serious overloading on one of your newer systems?

**Y**ou've finished a tricky onsite system installation on a small waterfront lot and the customer is happy with your work from the first flush. In one of your toughest jobs of the year, you faced obstacles including working around elevation, a well and depth-to-groundwater concerns. And the client — as they often do — wanted to wring every gallon per day of flow out of the system to add an extra bedroom.

This kind of job is what you've built your reputation on — creating a system that will outlive the homeowners and never cause you a lick of trouble. It's time to cash the check and tip back a cold brew to celebrate another job well done.

Maybe, but maybe not.

Like a lot of lake property owners in this recreational area, your customers have just posted their beautiful home on a vacation rental website, perhaps it's Airbnb or VRBO. Unbeknownst to you, they plan to rent out the house to visitors from the big city week after week, expecting your work to hold up under some pretty tough conditions.

How do these weekly renters tax the system? First off, these folks use a municipal sewer system back home and they never think about what happens to their waste after the flush. And because they've footed a big vacation rental bill, they'll want to invite Aunt Martha and Uncle Ed along for the week; and of course all the cousins have to drive out for a day on the lake. Pretty soon they're running way over the 450 gpd flow capacity and using the water facilities with reckless abandon.

## IT'S YOUR FAULT

Heaven help you if problems crop up within a year or two. When your clients get their first text from angry vacationers complaining about a backup, who are they going to call first? You. That's right. And the call will come just as you're sitting down for a Saturday night cookout with the family.

This situation could soon spiral out of control, with clients threatening to sue your installing company, telling all their lakefront friends what a terrible job you did, and leaving a one-star scathing review of your services on social media. It doesn't matter that your system functioned as promised from the start. Their new problems are your fault and you need to fix them.

Of course that's not true. You can rightfully explain that they were not using the new system as intended; that they brought on the problem by

When contractors proudly say they have a "customer for life," that distinction can cut both ways. **Sure, a happy customer will return again and again. But so will an unhappy one.**

allowing unfettered use of their home's wastewater system by strangers who didn't know they were causing harm. You could counter every complaint they have and protect your company from legal entanglements. But is that going to make the problem go away? Probably not.

So go ahead and enjoy that celebratory beer, but be prepared to continue the task of customer education and system monitoring for a long time to come. That's because when contractors proudly say they have a "customer for life," that distinction can cut both ways. Sure, a happy customer will return again and again. But so will an unhappy one.

Following the trend of short-term home rentals through websites like Airbnb, I would suggest you start educating customers when you install their new system and stay in contact throughout the first few years, making sure they understand the potential negative impacts of such arrangements concerning their new onsite system.

## PLAY THE HUNCH

Look at each property you work on and try to pick out which homeowners are likeliest to want to make a few bucks through short-term rentals. Perhaps it's a lakefront home and the owners say they will only be there a few weeks or months per year. During the design stage or installation, they may actually tell you they expect friends and family to use the home on occasion, downplaying what they are really thinking of doing with the house.

If you have an inkling it will be used differently than the typical three-bedroom home, it's time to kick into education mode and make suggestions for how to best care for the onsite system no matter who is staying



there. It would be wise to include a discussion about short-term rentals whenever you complete an installation. This could help prevent the kind of nightmare scenario described above.

What are some initial talking points for customers who are thinking of letting others use their home? Here are several suggestions to consider:

**Check the zoning** – It's quite possible the municipality does not allow short-term rentals like Airbnb. There has been a swing in this direction as neighbors often don't like to have the constant churn of rowdy visitors at an Airbnb and petition the town or village to prohibit the activity. This might end such a scheme by your customers before it's started.

**Recommend more frequent maintenance** – Offer to check system performance every six months or more often to help detect problems before they get out of hand. This is especially important as systems become more advanced. Suggest adding Wi-Fi tank and pump warning systems to alert you or their septic service provider directly if there is a problem. Offer to respond to these alarms for a fee.

**Carefully manage and monitor renter activity** – Alert your clients to expect renters to try to stretch the rules, especially concerning the number of guests they bring. Airbnb rentals can be expensive, and it's typical for users to want to "share" the cost with extended family and friends. More people means more stress on the septic system. And if this stress continues for weeks, it can lead to serious overuse.

**Take preventive measures to reduce water usage** – Homeowners can do a number of things to take the strain off of a septic system. Among the suggestions are to install low-flow faucet heads to showers and sinks; contract for a portable restroom to be set up near a beach or party area and encourage guests to use it; lock the washer and dryer behind a door so renters don't have access.

**Have your customers educate their customers** – Do this online through the rental website and create flyers to share with the renters and leave on-site during their visit. Among the messages: Ask them to manage their flushing — they're not in the city anymore, so it's OK to live by the credo, "If it's yellow let it mellow and if it's brown, flush it down." Watch how much they run the water and conserve wherever possible. Stress conservation as the environmentally friendly thing to do.

**Mark off the drainfield with easy-to-see signage** – Let visitors know they cannot drive over, park cars on, or set up tents over the drainfield. Warn them not to tear through the drainfield area with their four-wheelers or snowmobiles. The drainfield must be off-limits to renters with no exceptions. It is advisable to make this a direct talking point with short-term renters or even fence around the dispersal area in some cases.

**Stagger weekly rentals to allow the system to rest** – Make the home available once a month or one week on and one week off to allow overburdened onsite systems a chance to catch up with treatment.

**Plan ahead** – If Airbnb is allowed and the clients know they are going to pursue this activity before the install, suggest they build the system to account for spikes in flow. Aside from the added initial cost, there may be no downside to overbuilding the system. Review the options with them and make your best recommendations. And if they move forward, have customers work with a qualified pumping company to look at the usage and consider more frequent pumping intervals.

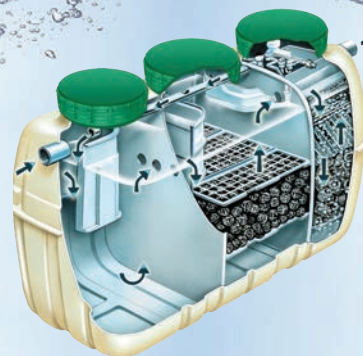
## NO SURPRISES

It's best to get out in front of any potential problems you could encounter post-installation. Nobody wants the surprise of an overused or failing onsite system early on in its life. Not the homeowner, not their renter, and — the biggest concern to me — not the installer. Be aware that the concept of web-based, short-term rental services is not likely to go away and will probably become a more popular option for homeowners in the future. Let's be prepared for it. ▣

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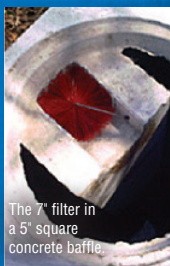
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### Overheard Online

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— *Your Employee Just Asked for a Raise. What's Next?*

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### JUST SAY NO

#### Prioritize What You Spend Time On

As a business owner, taking on more obligations does not always lead to positive results. One of the most valuable skill sets a business owner can develop is learning when and how to say no. When you say no to one thing, you're saying yes to the other projects that matter to you.

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### SURVEYING BASICS

#### On the Level

A laser level is an essential tool for designers, installers and regulators and understanding the basics of how they work is essential to using this tool effectively. They are easy to use, and only one person is needed to operate them. This online article breaks down what you need to know.

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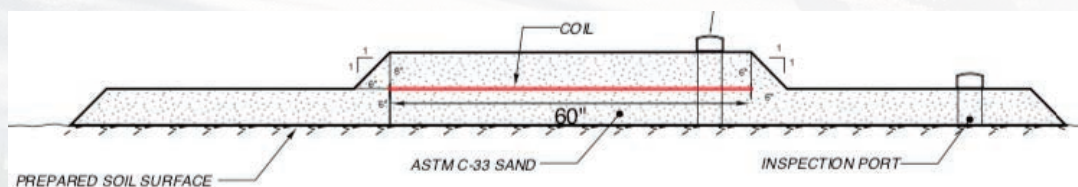
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# ALWAYS A BETTER WAY

Alan and Jen Chapin strive to elevate the onsite profession. Their approach is hiring quality people and providing community education.

By Ted J. Rulseh

**J**en Chapin got an interesting introduction to her husband Alan's new onsite installation business. It was the day he brought home the equipment he had just bought.

"I said, 'You just quit your job. You drive up with a truck, trailer and Kubota in our driveway, and you're doing what?' And then, 'I guess you're going to need an office assistant.'"

That was 14 years ago. Today their company, Envirotek Septic Solutions on Washington's Camano Island, does a thriving business with 10 team members, providing installation and repairs, pumping and inspection.

Alan started the company with a vision for doing things differently — meaning better — than he had often observed after 17 years on the manufacturing, sales, design and management sides of the onsite industry. He had no hands-on installation experience but did have a desire to give every customer a high-quality system.

"I want to make sure the customers' systems last as long as possible," he says. "The only way to do that is to use better products and better methods of putting things together — making sure everything is done correctly."

That approach has bought excellent word-of-mouth and an abundance of repeat business. The customer connections are enhanced by the company's "On Septic" educational programs offered twice a month for homeowners, real estate agents and others in the company's training room.

## SEEING ALL SIDES

Alan Chapin started out after high school working in manufacturing with Orenco Systems in Sutherlin, Oregon. After five years, he moved to Washington and joined Orenco distributor HD Fowler. While there, he advanced from customer service to sales and ultimately management.

After three years, he moved back into sales, supplying the onsite installers who in many cases are now his competitors. In 1996, with his employer's permission, he earned a designer's license and began designing systems on the side.

By 2006 he was ready to launch a business. "I started inspecting and then immediately bought an excavator, a trailer and a truck and went right



▲ At a regular morning meeting with the team, Alan Chapin talks about a Geoflow spin filter. (Photos by Stephen Brashear)





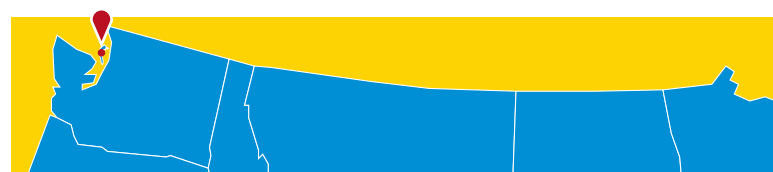
▼ Alan Chapin connects tubing with a Netafim USA coupling, while installing an OSCAR coil system from Lowridge Onsite Technologies.

into installing,” he says. “I had experience with all the products, and I had experience watching guys doing the work in the field. I just basically said, ‘I can do that.’”

Meanwhile, a friend and former customer was moving to Arizona; Alan was able to take over his accounts. “That gave me a foot in the door to have some business right away. He showed me how to do installations; I learned from him before he moved away.”

The business took off quickly, Jen recalls: “We created an office in the house. We became so busy that I had to quit my physical therapy assistant job to help run the business. About three years into it, we started hiring employees.”

Today the team includes Kim Mahoney, chief operations officer; Monte Larsen, lead pumper; Chris Hinds, pump technician; Kale Klizke, lead installer; Cruz Griffin, install technician; Michele Thompson, bookkeeper; and Pam Murdoch, agreement services. They also have a new hire: Angie Hines, customer service/bookkeeper.



## Envirotek Septic Solutions

### Camano Island, Washington

**Owners:** Jen and Alan Chapin  
**Years in business:** 14  
**Employees:** 10  
**Service area:** Camano Island and 70-mile radius  
**Specialty:** Onsite system installation, pumping, repair, inspection  
**Affiliations:** Washington Onsite Sewage Association  
**Website:** [www.envirotekwa.com](http://www.envirotekwa.com)





"I want to make sure the customers' systems last as long as possible. The only way to do that is to use better products and better methods of putting things together."

**Alan Chapin**

During his years in the business, Alan saw ways to improve on installation practices he had observed. He was determined to clean up construction scrap and carry it away instead of burying it the septic tank hole. He vowed to use the highest-quality components and take extra steps to ensure sound, leak-free systems.

"It's wet here in the Northwest," he says. "One thing we do is seal all penetrations, not only on the inside but also on the outside, so that water has no chance of ever infiltrating the system. That's a big detail, because a lot of failures happen due to hydraulic overload. It's not a lot of extra time, and it's very little extra money to go that extra step. For me, \$3 of bentonite as opposed to just epoxy seems like good insurance."

Install crews use clear polycarbonate sight tubes to test and fine-tune pressure distribution for new and existing systems. They install clean-outs at the lateral ends and use threaded fittings to fasten the tubes, which stand about 5 feet out of the ground. "Now when we run the pump we can clearly see where the liquid level is in all those sight tubes," Alan says. "We place a little orange ball inside so we can see the water level from a distance, because that ball is floating."

Quality practice also extends to the pumping side, and it starts when a customer calls the office. Jen says, "We tell them what we're going to do verbally, and then they get a confirmation letter. We send out our qualified technicians with our high expectations, and we follow up afterward. It seems to work out well."

Alan adds, "We don't park in the driveway. We run extra hoses. We have two people on site so we can always protect the landscape. It's not about getting in and out as quick as possible. We take a little more time and make sure the tank is clean when we leave."

## THE RIGHT STUFF

The pursuit of excellence emphatically includes the selection of team members. "We have a long process to hire the right person," Alan says. "We don't hire just to fill a hole or a gap. Our core values are excellence, generosity and enthusiasm. People need to have those at a minimum to work here."



## AIMING HIGHER

Camano Island, about an hour north of Seattle in Puget Sound, is about 18 miles long and 3 miles across. It has about 15,000 full-time residents and up to 18,000 in summer; the population is growing quickly. The entire island is served by septic systems. Envirotek reaches out to a 70-mile radius from home base, covering Island, Snohomish and Skagit counties.



Jen spearheads the hiring process, which includes phone interview screening, a face-to-face interview with her, a group interview with the two owners and Mahoney, followed by a two-hour in-the-field interview to give the prospect a taste of life on the job.

"Yes, it's a lot of work," Jen says. "But we know it makes a difference to our customers and our employees. Often the first thing a new employee says is, 'Wow, it's different around here.' It's the high level of expectation for how we take care of the customer and the way we treat each other and hold each other accountable."

Alan adds, "Our ratio of say-do is one-to-one; if we say it, we do it. That is standard operating procedure for everybody. If they say they're going to do something, they make sure that it happens. Customers don't get disappointed because they didn't get what they were promised. Our employees are the reason we get so much repeat business."

### DIVERSE PORTFOLIO

New and repeat business cuts across all sides of the operation. Diversification developed naturally. "I always think, how can I improve on what's being done," Alan says. "From installation and inspections, I thought, If a customer needs a tank pumped, who's going to pump it? We used to refer a lot of work to pumpers. It took us awhile to add a pump truck because of the cost, but eventually it got to a point where we could add that service."

## HUMBLE, HUNGRY, SMART

Alan and Jen Chapin of Envirotek Septic Solutions on Camano Island, Washington, hire people more for personal qualities than for experience and skills.

The attributes they look for boil down to three words: humble, hungry and smart, as prescribed by business consultant Patrick Lencioni. "You can always train for skills," Alan says. "Hiring people with those attributes will ensure a better chance for success as a team."

**Humble** is not about thinking less of oneself, Alan observes. "Having humility in a team context is more about thinking of others. It's a mindset that if I'm going to do or say something, I want it to add value to my team and to my customer. It's thinking about how to add value for someone else instead of thinking, 'What's in it for me?'"

**Hungry** means having a focus on finding a way. "We don't complain," Alan says. "We don't act like victims. We're going to find a way to make it happen with the resources and the people we have here. That may mean staying late and coming in early. It's having a sense of excitement about the work we're doing."

**Smart** "doesn't mean book smart," Jen says. "It means can you work with other people? Do you know how to communicate with them? It's knowing what to say and when to say it, knowing how people feel in a meeting or in a room."

These attributes in all team members help Envirotek create an experience that customers appreciate and remember.

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« The Envirotek Septic Solutions crew includes, from left, Angie Hines, Kale Klitzke, (unnamed), Chris Hinds, Jen Chapin, Alan Chapin, Cruz Griffin, Monte Larsen and Kim Mahoney. They are shown at the company headquarters on Camano Island, Washington.

▼ Technician Chris Hinds makes a photo record of the condition of a septic tank after pumping.

"Often the first thing a new employee says is, 'Wow, it's different around here.'"

**Jen Chapin**

The company now owns a 1991 International vacuum truck with a 2,300-gallon steel tank and a Masport H15X pump, from Erickson Tank & Pump; and a 2012 International DuraStar with 1,870-gallon steel tank and a Juro/Chandler PN84 pump, from KeeVac Industries. The company pumps about 600 tanks per year.

On the installation side, the go-to machines are three Kubota excavators: a 2006 Model KX121, 2010 Model KX41 and 2018 Model KX008. System volume ranges from 50 to 75 per year. Challenges include beachfront properties with cabins being converted from seasonal to full-time occupancy, for which the existing septic systems are inadequate.

Tank installations there have to be coordinated with low tides. "Because we're dealing with sand and gravel, the holes, you start out with a normal tank hole, but it ends up being three times the size because of tides and the collapsing of the sand," Alan says. Tanks typically go on the back side of the house and the drainfield on the beach side beyond a mandatory 25-foot setback from the ordinary high water mark.

Other sites have steep slopes that require drainfields to follow the land contours. Camano Island has areas with shallow hardpan and others with water tables as little as 12 inches below ground. These sites are well suited for OSCAR (Onsite Sand Coil Area Recharge) systems from Lowridge Onsite Technologies, low-profile treatment and dispersal systems that require only 12 inches of soil above water or a restrictive layer. The company also installs NuWater aerobic treatment units (Enviro-Flo).

For septic tanks, Alan prefers plastic units from Infiltrator Water Technologies. "We use concrete when we can easily get the truck that's delivering the tank into the site," he says. "We prefer plastic because we don't need to have the tank hole ready to go when the truck shows up. Plastic gives us more flexibility, but we are somewhat more selective in high-water-table areas."

For drainfield media, the company uses only chambers (also Infiltrator).



## GIVING BACK

While building its business, Envirotek has worked to expand community members' knowledge of onsite treatment and its environmental benefits. On Septic programs held twice per month typically attract 15 to 20 people. Flags posted outside the office, which is on a main road through the island and across from the building that houses the county health department, let residents know about the events.

"Community is important to us," Alan says. "We give back to the community by sharing our knowledge to help homeowners take care of their systems so that they will last for as long as possible. We want them to be educated, so that even if they hire somebody other than us — which is totally fine — they'll know what to look for, they know the right questions to ask."

Programs cover topics like when to pump a tank, how to landscape around septic systems, what to do during home sale inspections, the pros and cons of additives and many others. "It never has been and never will be a sales pitch," Alan says. "We never disparage our competition. We say, 'Here's what you should expect from this service. We want you to be better prepared.'" Handouts are prepared for each topic; attendees receive a binder that they can fill up with information as they take part in more sessions.

continued >>



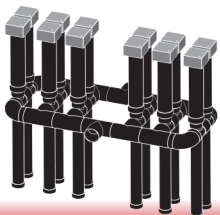
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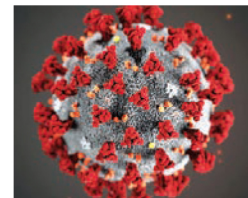


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◀ Cruz Griffin cuts an extension riser from IPEX pipe material for a new septic system installation.

Cindy and Don Horton attend the sessions regularly. They bought a house on Camano Island last year and had no experience with septic systems. While driving one day, they saw the sign at Envirotek. They attended for the first time in October.

"We've been going to them ever since," Cindy Horton says. "They are spectacular. I'm a former teacher, and I really like a great presentation. These are above and beyond anything we could have expected. Alan is so informative and knowledgeable about all the different kinds of systems. He has a way about his presentations. There's a little bit of humor, a little bit of science, a little bit about a lot of things. That makes it really interesting."

It's a great way to create an informed clientele and to spread an environmental ethic among septic system owners on and around Camano Island. ◻

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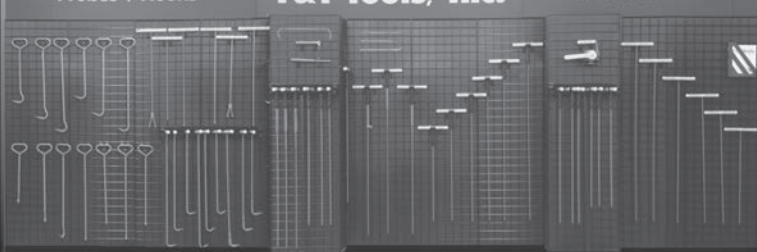


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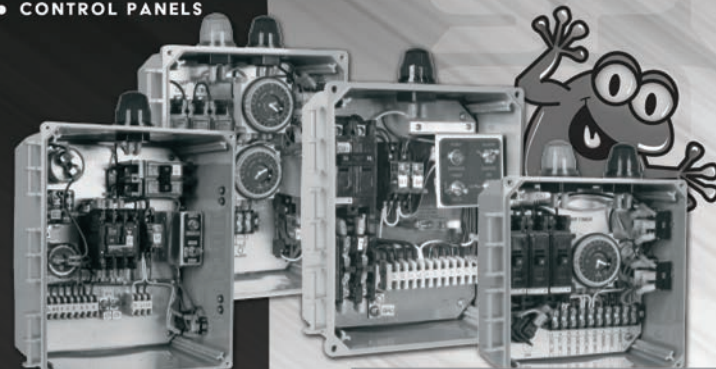
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# Here's a Quick Review of Gravity Distribution to the Trench

Engineers call it delivering effluent in time and space. Simply put, soil must accept the wastewater sent through the septic tank.

By Jim Anderson and David Gustafson

In the past few months, we've had a few questions related to hydraulic and organic loading of treatment areas through gravity and pressure distribution systems. We were going to jump right into a discussion about various ways effluent is delivered to sewage treatment and dispersal areas. But then we thought we should take a step back and talk about how systems operate under gravity and pressure distribution in a general way to highlight the differences.

This month we will discuss gravity distribution and next month pressure distribution within trenches. Whether distribution in the trench is by gravity or pressure, the objectives are the same: The soil needs to

There are examples where the localized area can occur farther down the pipe depending on how the pipe was positioned, but the result is the same — effluent is delivered to a small area relative to the entire infiltrative surface available.

Effluent applied consistently in this one area results in increased biological activity and formation of what we call the biomat. Biomat is composed of the organic material from wastewater, bacteria and other organisms and their waste products. In the application area, biomat begins to reduce infiltration into the soil. Several things begin to happen: effluent spreads out over a larger infiltrative area developing biomat, and the soil becomes saturated in the area where flow moves through the biomat.

Unsaturated flow and presence of oxygen in soil pores is important for treatment to occur. Treatment includes the breakdown of organic material in the wastewater by aerobic soil organisms; reduction in pathogens (virus and bacteria) and tying up nutrients and other types of organic contaminants.

As more effluent is applied over time, the biomat continues to develop until it covers the entire trench bottom. Effluent then begins to pond above the biomat in the trench. At this point, the entire trench is being used to accept and treat the effluent. Up until the time biomat covers the entire infiltrative surface, the trench is not operating at its maximum treatment capacity. Areas where biomat is not developed accept effluent under saturated flow and treatment efficiency is reduced.

## A change in any parameter impacts the system size.

A difference in soil type, organic load and water use all impact development of the biomat, long-term acceptance of effluent and treatment.

accept the amount of water the homeowner uses and provide treatment. To do this means accepting the water at the time it is delivered and to use the whole area of the system. Engineers call this “delivering effluent in time and space.”

Effluent is delivered to gravity trenches in one of two ways: either totally by gravity where flow out of the septic tank is delivered whenever there is a water-use event in the house; or in a pressure-dosed situation where effluent leaves the septic tank to a pump tank, is stored and then usually intermittently delivered in on-demand doses. A timer can be added to apply doses on a more regular timed basis through the day. This spreads the flow out more evenly from a time perspective, but does not affect what happens when the effluent is delivered to the trench.

## FORMING THE BIOMAT

In both cases, effluent is delivered to the pipe at the head of the trench. Depending on flow rate into the trench, effluent is delivered to the trench from just a few of the holes in the sewer pipe. This means all the effluent moves downward through the trench media to the infiltrative surface in a small area. This usually occurs in an area at the beginning of the trench.

## PLUGGING THE PORES

How biomat is managed is critical for long-term system operation. Biomat forms in a biologically active area. Organic material is being added and broken down, so it will reach an equilibrium point as long as the effluent quality applied is maintained and effluent does not contain solids that won't break down over time. So if hydraulic or organic loading from the septic tank does not increase and inorganic solids are kept at a minimum, the system will operate indefinitely.

Examples of solids that will not break down include everything from inorganic soil particles to small plastic particles contained in cleaning products. These will physically plug soil pores, and since they will not break down, they will permanently reduce the infiltration rate.



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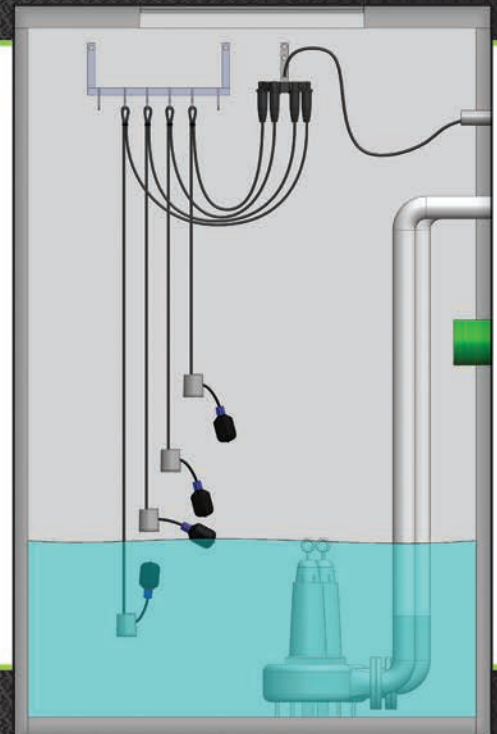
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As we have discussed in the past, most soil-loading rates in use today assume the presence of a biomat and system size for an estimated daily sewage flow is determined by the biomat-influenced loading rate. A change in any parameter impacts the system size. A difference in soil type, organic load and water use all impact development of the biomat, long-term acceptance of effluent and treatment.

In gravity distribution, we depend on the soil with the biomat to distribute effluent over the area (space) of the system, not the distribution piping or the type of media in the trench. This is why installing trenches on the contour and level is critical to provide proper effluent distribution.



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# Widespread Use of Drip Systems Will Help Kentucky

An important change in regulations will help with efficient repair and replacement of older septic systems, provide more options for homeowners

Compiled by Betty Dageforde

*In this 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 Kentucky Onsite Wastewater Association.*



## Buddy Wilson

environmental health director

**Government office and location:** Montgomery County Health Department, Mount Sterling, Kentucky

**Age:** 51

**Services we offer:** My main area of focus is onsite systems. I am an inspector.

**Years in the industry:** 25

## Association involvement:

I am a charter member of the Kentucky Onsite Wastewater Association. I helped start the association about 18 years ago and am currently a vice president.

## Benefits of belonging to the association:

We started the association to incorporate the installers into an organization they didn't have previously. We as inspectors belong to a lot of organizations — the Kentucky Environmental Health Association, the Kentucky Public Health Association — but the installers didn't have something they could belong to. We also included industry representatives — people who manufacture tanks, pumps, alarms and equipment. We used to hold a yearly conference where installers could obtain their continuing education credits to maintain their certifications.

## Biggest issue facing your association right now:

When we started out we had many members. Then the housing industry crashed and our membership dwindled. We stayed afloat and our numbers are starting to increase but not to the point we can justify holding a conference. It's too expensive. But we do stay vocal in the state. When the installers need hours, they can contact us on our website. We do remote trainings now. We have an office in Frankfurt where we have classes. But I teach classes all over the state. If we get enough people for a class in a county, I'll go and do a one-day, six-hour training class.

## Our crew includes:

My director is Allison Napier and my administrative assistant is Cheryl McCoy. Emily Covey is another environmentalist in the office with me. She and I are both registered sanitarians with the state of Kentucky and certified to do onsite inspections.

## Typical day on the job:

I spend two hours in the office from 8 to 10 a.m. doing bookwork and filing. Then for the rest of the day I'm in the field doing inspections, site evaluations, repair inspections.

## The job I'll never forget:

About six months after the installation of a new conventional leaching chamber septic system, the homeowner called complaining that the system wasn't functioning properly and sewage was leaking in her backyard. I thought that was strange. I went out to the house and went to the backyard where the septic system was. She had a pet pot-bellied pig — a big one, about 200 or 300 pounds. Pigs like to wallow in mud and the pig had rooted up her leaching chambers and was wallowing in sewage. I told her she had to get the pig out of the backyard.

continued >>



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## My favorite piece of equipment:

I've dug holes all around the state of Kentucky with my favorite piece of equipment, which is my hand soil auger. I'm on my third one. I also love my Caterpillar mini-trackhoe, which comes in handy around the farm.

## Most challenging site I've worked on:

We had to calculate the total daily waste flow for a couple of boys' camps and a boys' home. The challenge with those is, at the boys' home you have a number of boys living there full time, some full-time staff living there, part-time staff coming in during the day, and visitors stopping by. So it's challenging to get an accurate total daily waste flow. You don't know how full they're going to be or how many people are coming and going. For the camps, you have a lot of campers during the summer but the rest of the year it's vacant, so you've got to anticipate that huge initial surge of wastewater, but then nothing the rest of the year. So we call around to other counties to see what they've done, we use some formulas, then do our best and always err on the side of caution.

## Oops, I wish I could take this one back:

One of my friends built a house and asked me to help him put his septic system in. I'm not the best backhoe operator. We were going to put leaching chambers in that were 3 feet wide. We marked the lines out on top of the ground and I started digging. But I only had a 2-foot bucket on the track hoe. Being inexperienced — this was 20 years ago — I started out on top of the ground at 3 feet but the sidewalls narrowed in at the bottom so a 36-inch leaching chamber would not fit. I had to go back and shave the sidewalls down on all three lateral lines with a shovel.

## The craziest question I've been asked:

An installer questioned me about filling the tank with water. He was installing a new tank and called me to come out for inspection. It was a metal tank. It was going to rain and he said, "I'm going to cover this up." I said, "Yes, but you need to fill it with water before you cover that metal tank because it'll float out of the ground." He said he wasn't worried about that. I said it again but instead of putting water in the tank he pulled his backhoe up to it and set his front boom down on it. A huge rain came that night. The tank popped out of the ground, flipped his backhoe and broke the cab.

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

I would mandate a separation of all washing machine lines into their own separate lateral field. Washing machines are the largest producer of wastewater in the house and create a lot of problems with the chemistry in a septic tank with the bleaches and soap powders.

## Best piece of small-business advice I've heard:

The business owner has to be there — you can't have somebody run your business like you will run your business.

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

Still own my outdoor sporting goods/gun store. I owned that store for 10 years while I started doing this. I started out with the state, then I bought



▲ Buddy Wilson with a Smart Stick probe from T&T Tools and his soil auger.

the gun shop from my parents and quit the state. The state kept calling me back and the reason I came back was for retirement and insurance.

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

Last year in Kentucky we released drip irrigation systems off experimental status. I'm excited for the future of onsite with the ability to install drip irrigation systems. I think that's going to help us a ton on repairs, on old systems, on small lots. You can put drip irrigation in areas you couldn't use anything else in. I think that's going to be a real positive for the future and help a lot of people. They're slowly coming online now. □

## Would you like to see someone in your state or provincial wastewater trade association profiled in Snapshot?

Send your suggestions to Jim Kneiszel at [editor@onsiteinstaller.com](mailto:editor@onsiteinstaller.com).

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## SYSTEM PROFILE



# The Onsite Community Travels to Help the Needy in Belize

Volunteers from an Ohio church travel to Central America to install a system at a shelter for girls

By David Steinkraus

**C**hurch mission trips usually don't send a crew of mostly inexperienced people from a small Midwestern town to install a wastewater system in Central America. Yet that's what Ty Keefer found himself overseeing in February for his group from First Presbyterian Church in Norwalk, Ohio. Fortunately, he does have experience, but only of a certain kind.

Keefer owns Stark's Sanitary Service in Norwalk. He pumps tanks and does minor repairs. "I've done no installation. I've been around when systems were put in," he says.

At the end of the trip was Marla's House of Hope, a shelter for girls from abusive families and located in Belmopan, capital city of Belize. The shelter has a capacity of 20 to 25 girls and had two septic tanks on a square lot measuring 142 feet on a side.

"They have no regulations down there, so both of the septic systems were dumping into ditches," Keefer says.

It was an unhealthy situation, and the people in Belmopan knew it when they asked for help.

### Making connections

Belize was the destination because the Rev. James Hodsden of First Presbyterian had been there many times, says Greg Graves, a member of the church who is also general manager of Norweco, which is based in Norwalk.

It had been several years since a mission trip from the church had gone beyond the borders of the U.S., Graves says. In August 2019, seven church members including Graves went to Belize with Hodsden to see what projects needed doing. Their hosts in Belize, from The Word At Work, suggested several projects, and one of their more important ministries was at House of Hope. When Graves was introduced, the conversation changed.



⚠️ Once the digging was done, Curt Markley, left, and Mary Ann Lamb, right, of First Presbyterian Church in Norwalk helped lay Infiltrator Water Technologies chambers around the sides of the shelter in Belmopan. A fence set in a 2-foot-high base restricted space on three sides of the job site. (Photos courtesy of Ty Keefer)

⚠️ Volunteer installers work on the pipe to move wastewater from the lift station to the Infiltrator Water Technologies chambers at Marla's House of Hope in Belize.



"I am not an engineer at all, but when they heard the word wastewater or sewage, their eyes were lighting up, and they said, we have all kinds of work for you," he says.

Once the wastewater system for the shelter was on the project list, the next question was how to do it. Infiltrator Water Technologies volunteered to do the design work and donate Quick4 chambers for the project, Graves says. And Infiltrator solved the problem of shipping equipment to Central America, he says. Contracting for a shipping container would have cost thousands, but someone at Infiltrator knew there was space in a container that a different church group was sending to Belize for its own project. Infiltrator sent its equipment to Gulfport, Mississippi, and volunteers saw that it was loaded into the container bound for Belize.

## Finding skills

In the meantime, Keefer was working out how to install the system. The wastewater work was scheduled for February, but Keefer was able to go on a church trip in November so he could visit the site. Then he looked at the roster of people for the February trip, and the projects they would be doing, and cherry-picked for the skills he needed.

"I said, I need people who have knowledge about some of this stuff. It's nothing against having unskilled labor, but this is a skilled-labor project. You just can't have every Tom, Dick and Harry throwing Infiltrator chambers down," Keefer says. "We had two guys on the trip who knew how to shoot grades, and one of those guys had helped install a system before."

Other people he found had installed drain tiles and knew how pipes should be connected and laid.

"Being that I've been involved in the septic industry for the last 25 years, I had knowledge of how systems work. Combining us made it far easier to do something that none of us had done on our own," Keefer says.

## Simple flow

The system itself is simple. Water comes out of the building in a 4-inch Schedule 40 pipe and enters an existing three-chamber concrete block septic tank that provides settling and primary treatment. From the tank, water flows to a lift station that also receives wastewater from a grease trap serving the kitchen.



▲ Many of the people who helped install the wastewater system in Belize had no construction skills, so doing the job right depended on the knowledge of a core group of people who could cut pipe and knew how components needed to fit. Scot Davidson cuts a piece of Schedule 40 PVC as other volunteers look on.

▼ Allen Albright, left front, Curt Markley, left rear, and Mary Ann Lamb, right, prepare the trenches for the Infiltrator Water Technologies chambers at Marla's House of Hope in Belmopan. Although shovels were useful, a backhoe and operator donated by the city was the best tool for digging in the tropical heat and humidity.



## System Profile

**Location:** Belmopan, Belize  
**Facility served:** Marla's House of Hope shelter  
**Designer:** Infiltrator Water Technologies  
**Installer:** First Presbyterian Church, Norwalk, Ohio  
**Type of system:** Septic tank with lift station and Infiltrator chambers  
**Site conditions:** Stony clay soil  
**Hydraulic capacity:** 31,750 gpd



## SYSTEM PROFILE

➤ Large rocks forced the church group working in Belize to go through this sidewalk instead of under it to connect two sets of Infiltrator Water Technologies chambers. The manifold was necessary to avoid other rocks.

▼ With the system in, Curt Markley uses a Takeuchi TB135 for the finish work. The tropical heat, and the presence of many large rocks, made the excavator a critical tool to finish the job in the week available.



"It's nothing against having unskilled labor, but this is a skilled-labor project. You just can't have every Tom, Dick and Harry throwing Infiltrator chambers down."

◀ Ty Keefer

A 2-inch pipe lifts wastewater to a 4-inch pipe, and from there water flows by gravity through the Infiltrator chambers. At the entry to each row of chambers is a splash pad. Water flows across the ground and into another 4-inch pipe that carries it to the next set of chambers.

Pipes were laid on native soil, but the year-round temperature is 65 to 95 degrees F. Chambers were set on native soil. There was no gravel or other medium, and in any case, gravel is hard to come by in that part of the world.

The project used 180 Quick4 Equalizer 36 LP chambers. Total drain-field area is 1,400 square feet divided into four sections that wrap around three sides of the shelter building.

To maintain gravity flow through the system, the first set of chambers was set about 6 inches deep, the next about 12 inches, the third about 20 inches, and the last set at 35 to 36 inches.

### Tropical heat

When Keefer visited in November, he had talked to the church's local contact about getting an excavator for the project. He says the soil was the worst he has ever seen, a crumbly clay with plenty of rocks. In addition, his crew would be coming from a Midwestern winter to do physical work in tropical heat and humidity.

"None of us are in shape enough to grab shovels and go out there and start digging," he says. "And our contact says, OK, I'll get you an excavator."

In February his group arrived to no excavator. "And our contact comes out, and he's got three shovels. One of them had a broken handle," Keefer says.

Asked to try again, the contact reached a city official. The House of Hope is a favorite of city officials, Keefer says, and this one assigned an operator and a backhoe to do the initial excavation. The group paid a rental company to provide a Takeuchi TB135 mini-excavator and an operator, but the skilled finish work was done with the Takeuchi by church volunteer Curt Markley who runs an excavator all the time in his job for Mark Haynes Construction in Collins, Ohio.

And the church group needed the machinery because of all the stones and the hard soil. In front of the house, the crew cut through a sidewalk to join one set of chambers to the next just below the sidewalk grade. At first the crew thought of boring a hole under the sidewalk.

"There were stones the size of a moose head under there," Keefer says. "The excavator was having a hard time pulling them out."

The excavator eventually cleared enough space for a single pipe, so the crew built a manifold to join the pipes from three rows of chambers into a single pipe. On the other side of the sidewalk, they installed another manifold to expand the flow into the next three rows of chambers.

The first day was spent organizing people and working out how to assemble the equipment waiting on site. In total the church group numbered 23.





▲ On one side of the shelter in Belmopan, Belize, church volunteers begin covering the Infiltrator Water Technologies chambers. The crumbly and stony native clay soil was used to backfill. Chambers were arranged in four sets to wrap around three sides of the building.

Keefer had a core group of four for the wastewater project, and that was supplemented by others who came and went depending on where they were needed. Between organizing, installing and finishing up, the project took six days.

Keefer spent a fair amount of time running parts. There was a decent hardware store about 10 minutes from the site, he says. Language was not a problem. Because Belize was once part of the British Empire, the primary language is English. The challenge was finding what his crew needed.

"Sometimes they had the parts. Sometimes they didn't," Keefer says. "Down there, if you want an elbow, you get a 90. That's it."

"It's amazing how far 15 feet of Schedule 40 PVC will bend," he adds.

## Technology revealed

The group had to pay particular attention to staying safe. There were no hard hats, and safety glasses were available only to people who had brought them. Given restrictions on airline luggage, Keefer says, people did not have space for many pieces of PPE.

The church project did not answer all the wastewater needs at Marla's House of Hope. A second septic tank serves the other side of the building, and it still discharges to the surface, Keefer says. But the tank now discharging into the Infiltrator system receives most of the wastewater from the building.

The project also attracted the interest of city officials in Belmopan. Though common in the U.S., Infiltrator technology was a revelation for the officials, several of whom stopped by to see the system firsthand.

There is talk of another mission trip to Belize, but Keefer doesn't know if another wastewater system will play a part. He does know what came out of the February trip.

"It is one of the best things I've ever been involved in," he says. "You see these girls in there; why do they have to live in squalor?" ■

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# Decentralized Disposal of Winery Wastewater Faces New Regulation Hurdles in California

By David Steinkraus

The California Water Resources Control Board is working on an update to its winery wastewater rules. The order will affect more than 2,000 wineries that discharge wastewater for disposal or reuse, news reports said.

Among other actions, the draft order would prohibit: the discharge of high-strength saline waste, any discharge to surface water, discharge to land not controlled by the winery doing the discharging, discharge of solids to a subsurface disposal area, discharge of wastewater to an unlined pond or to a rapid-infiltration pond, and any discharge of domestic wastewater to a system handling winery process wastewater.

Wineries producing more than 1 million gallons per year (Tier 4 wineries) will be required to monitor water quality at the land application area. Tier 3 wineries (which produce 300,000 to 1 million gallons per year) may be required to monitor if their area is environmentally sensitive. For Tier 2, 3 and 4 wineries, the draft order sets weekly monitoring requirements for BOD, TSS and total nitrogen. The order also requires wineries discharging to subsurface systems to meet a maximum hydraulic load of 1 gallon per square foot of discharge trench per day.

A report by the online trade publication *Wine Industry Advisor* says every Tier 4 winery would have to install at least groundwater monitoring wells to comply with the order if it is adopted.

Adoption of the order is scheduled for the water board's Nov. 17 meeting.

## New Mexico

Although concerns about increased water use and septic system density came up, the Taos County Board of Commissioners voted to reduce the minimum lot size for subdivisions.

Recently the board voted to drop the minimum lot size from 2 acres to 1. Commissioner Jim Fambro raised concerns about the increased water use and septic density that could accompany such a change, but he told the *Taos News* that his concerns were eased when Edward Vigil, the county planning director, talked about a cap on the number of acre-feet of water that each household will be able to use.

The new lot size applies only to land where the average natural slope is no greater than 10%.

## Texas

The Waco Plan Commission is recommending an increase in the minimum lot size required for onsite system installation. Changing the minimum size lot from 1/2 acre to 1 acre would primarily affect future subdivisions on the outskirts of the city, reported the *Waco Tribune-Herald*. The city's concern is the quality of Lake Waco, its source of drinking water.

For some decades, subdivisions of about 20 lots were the largest developments around the city.

"We're starting to see larger subdivisions that come in with 40, 50, 60 lots," says Planning Director Clint Peters. "To have across-the-board maintenance on a 50-lot subdivision of half-acre (lots), over time, is almost impossible."

## Texas

Sheriff's deputies in Fayette County found something much more profitable than septage in the tank of a vacuum truck they stopped on Interstate 10 about 90 miles east of San Antonio.

Both the driver and passenger seemed nervous when deputies talked to them, reported KXAN News of Austin. Deputies received permission to search the truck, and when they opened the lid of the tank, they found a number of bundles wrapped in cellophane, tape and axle grease. In the bundles were 350 pounds of marijuana.

Driver Stephanie Navejar, 45, and passenger Jorge Sanchez, 53, both of Cotulla, Texas, face charges of felony possession of marijuana.

## New Hampshire

A 49-year-old man faces criminal charges for taking \$1,500 from a 69-year-old woman and then never installing the septic system he said he could install. The would-be installer was charged with two felonies, theft by unauthorized taking and theft by deception, reported the *Concord Monitor*. He was also charged with two misdemeanors: deceptive business practices and forgery. Police said he led the woman to believe he would design and install a system for her, and showed her a forged permit application.

## Ohio

Health departments in seven counties will be receiving \$250,000 from the Ohio Environmental Protection Agency to help homeowners replace failing septic systems. Low- to moderate-income households can receive money to cover 50% to 100% of system replacement costs. The grants are intended to help clean high-risk watersheds, reported the *Sandusky Register*. Counties receiving the money are Erie, Ottawa, Sandusky, Paulding, Putnam, Williams and Wood.

## Rhode Island

Charlestown's program to replace failing onsite systems was praised by the U.S. Environmental Protection Agency as a way to improve the resilience of coastal communities threatened by rising sea levels and climate change.



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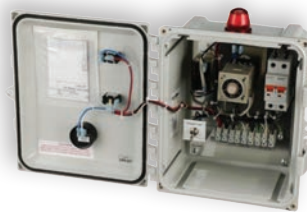
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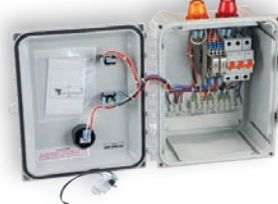
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The \$270,000 grant program began in 2016 and is nearing an end, reported *The Westerly Sun* of Pawcatuck, Connecticut. The town invited applications from people who live in places where nitrogen pollution posed the greatest risk to water, and 15 were picked to receive denitrifying onsite systems. Each grant paid about \$18,000, and each homeowner paid the balance of about \$10,000. ■

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

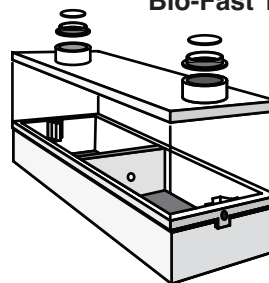
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Wisconsin Liquid Waste  
Carriers Association;  
[www.wlwca.com](http://www.wlwca.com); 888-782-6815

## NATIONAL

Water Environment Federation;  
[www.wef.org](http://www.wef.org); 800-666-0206

National Onsite Wastewater  
Recycling Association;  
[www.nowra.org](http://www.nowra.org); 800-966-2942

National Association of  
Wastewater Technicians;  
[www.nawt.org](http://www.nawt.org); 800-236-6298

## CANADA

### ALBERTA

Alberta Onsite Wastewater  
Management Association;  
[www.aowma.com](http://www.aowma.com); 877-489-7471

### BRITISH COLUMBIA

British Columbia Onsite  
Wastewater Association;  
[www.bcossa.org](http://www.bcossa.org); 778-432-2120

WCOWMA Onsite Wastewater  
Management of B.C.;  
[www.wcowma-bc.com](http://www.wcowma-bc.com);  
877-489-7471

### MANITOBA

Manitoba Onsite Wastewater  
Management Association;  
[www.mowma.org](http://www.mowma.org); 877-489-7471

Onsite Wastewater Systems  
Installers of Manitoba, Inc.;  
[www.owsim.com](http://www.owsim.com); 204-771-0455

### NEW BRUNSWICK

New Brunswick Association of  
Onsite Wastewater Professionals;  
[www.nbaowp.ca](http://www.nbaowp.ca); 506-455-5477

### NOVA SCOTIA

Waste Water Nova Scotia;  
[www.wwns.ca](http://www.wwns.ca); 902-246-2131

### ONTARIO

Ontario Onsite  
Wastewater Association;  
[www.oowa.org](http://www.oowa.org); 855-905-6692

Ontario Association of  
Sewage Industry Services;  
[www.oasisontario.on.ca](http://www.oasisontario.on.ca);  
877-202-0082

### SASKATCHEWAN

Saskatchewan Onsite Wastewater  
Management Association;  
[www.sowma.ca](http://www.sowma.ca); 877-489-7471

### CANADIAN REGIONAL

Western Canada Onsite  
Wastewater Management  
Association;  
[www.wcowma.com](http://www.wcowma.com);  
877-489-7471 □

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\*see warranty for details



# System Maintenance, Inspection and Installation Tools

By Craig Mandli

## DRAINLINE INSPECTION

### CUES MPlus+ XL

The CUES MPlus+ XL push system is designed for easy operation and flexibility with an all-in-one setup and quick removal of the control unit, which can be used separately. It includes a coiler configuration and pan-and-tilt camera for mainline and larger pipeline applications up to 500 feet. It integrates video observation coding, observation coding interface and digital recording. The lightweight system includes large, durable wheels for portability and a balanced footprint for stability. It is manufactured for rigorous field use. 800-327-7791; [www.cuesinc.com](http://www.cuesinc.com).



### MyTana MS11-NG2

The MS11-NG2 midsized inspection system from MyTana includes an integrated, daylight-readable monitor that delivers high-clarity footage and digital recording lets the user save that footage to either a 64GB internal drive or a USB flash drive. Operators can also stream video wirelessly to multiple devices. The lightweight, rugged, powder-coated all-aluminum frame holds up in

harsh operating environments, according to the maker. It includes a set of Ice Balls to guide and protect the 1 1/2-inch-diameter camera head. A built-in 512 Hz transmitter helps locate trouble spots, even in cast iron pipes. The unit is available with 150 or 200 feet of pushrod. 800-328-8170; [www.mytana.com](http://www.mytana.com).

### Ratech Electronics Plumber's Helper Jr.

The Plumber's Helper Jr. pipe inspection system from Ratech Electronics is based on a small-scale reel and comes with 100 feet of mini Gel Rod cable, a removable compact command module with 7.1-inch LCD, a built-in battery and an SD recorder for recording digital images and video. This mini pipe-inspection system is available



with a full-spectrum, 1.375-inch, self-leveling color camera; a standard color camera; or any of the company's three micro camera heads (5/8-, 3/4- or 1-inch diameter). 905-660-7072; [www.ratech-electronics.com](http://www.ratech-electronics.com).



### Vivax-Metrotech vCamMX-2

The vCamMX-2 from Vivax-Metrotech is a portable all-in-one camera to inspect pipes between 2 and 4 inches. The control module's 8-inch daylight-viewable LCD screen shows the distance of pushrod deployed, as well as the current time and date. Recordings are made in MP4 video and photos in JPEG format directly to a USB

thumb drive, then instantly backed up to an SD card. The internal microphone allows audio commenting over recording video. The pushrod is traceable with the use of an external locator transmitter and available in 100, 150 or 200 feet. A dual-frequency 512 Hz/33 kHz sonde is standard. There are two interchangeable camera heads. The smaller D18-MX camera is fixed position and 0.70 inch in diameter, and the D26-MX is self-leveling and 1 inch in diameter. 800-446-3392; [www.vivax-metrotech.com](http://www.vivax-metrotech.com).

## EXCAVATION EQUIPMENT

### Ditch Witch HX30G

The HX30G vacuum excavator from Ditch Witch boasts high-profile power in a low-profile design that eases navigation in congested and height-restricted areas. It is powered by a 31 hp Vanguard gas engine for optimal suction power and water pressure. To boost efficiency on any job, it comes with a powerful 542 cfm blower, 3,000 psi water pressure and 4.2 gpm water flow. It is offered with the choice of a 500- or 800-gallon tank for a variety of job requirements. The machine is available in multiple trailer configurations, including the VT9 trailer that, when equipped with the 500-gallon tank, does not require a CDL to transport. 800-654-6481; [www.ditchwitch.com](http://www.ditchwitch.com).





## HAND TOOL

### T&T Tools Mighty Probe

The **Mighty Probe** from T&T Tools has a 3/8-inch hex rod (approximately 20% stiffer than a round rod) or a 7/16-inch hex rod (approximately twice as stiff as the standard round rod). Stiffer hex rods bend less to make the probe easier to push into the ground, especially when probing at deeper depths. Lengths are available from 36 to 78 inches in 6-inch increments. When the probe is combined with a slide adapter, an integrated mini slide-hammer probe is created, allowing technicians to pound through difficult spots. 800-521-6893; [www.mightyprobe.com](http://www.mightyprobe.com).



## ELECTRONIC LOCATORS

### General Pipe Cleaners Gen-Eye Hot Spot

The **Gen-Eye Hot Spot** pipe locator and Hot Spot transmitter from **General Pipe Cleaners** includes a total field antenna and on-screen icons to lead the user to their target without a long learning curve. It can be used to quickly and accurately locate inspection cameras, sondes, active power lines and utility lines. Rated at IP65, it can withstand a 3-foot drop, along with being dust- and dirt-proof and water resistant. The 5-watt transmitter, in tandem with the locator, makes finding buried utilities quick and easy. More power means more signal to locate. Choose one of four frequencies that best suits the application. 800-245-6200; [www.drainbrain.com](http://www.drainbrain.com).



### Subsite Electronics UtiliGuard 2

The **Subsite Electronics UtiliGuard 2** is a multifrequency utility locator with the features of the original UtiliGuard and adding a user interface, integrated data capture and GPS positioning. The user interface has simplified graphics that are easier and faster to interpret. Operators will notice a change in screen layout when directly over a utility locate, providing positive confirmation. The combination of screen graphics delivers increased operator confidence, locate consistency and operational performance. It automatically captures data without altering the operator's normal workflow. This data can be used to verify performance and demonstrate quality and process compliance in the field. Supervisors can also track



performance, compare it with benchmarks and enable actionable outcomes. This reporting and auditing capability helps increase quality, reduce cable strikes and increase productivity across multiple crews, according to the maker. 800-846-2713; [www.subsite.com](http://www.subsite.com).

## PRESSURE WASHERS AND SPRAYERS

### Easy-Kleen Pressure Systems Groundhog Jetter

The **Groundhog Jetter** from **Easy-Kleen Pressure Systems** is designed to blast through clogged pipes with a 35 hp Vanguard engine providing 12 gpm at 3,500 psi. It is compact and can be transported in a pickup truck or van, with trailer options available. It includes a fully welded, powder-coated, 2-inch steel tube frame, drilled and tapped, which houses the 200-gallon water tank. It comes with an accessible breather and 10-gallon fuel tank, General Pump with gearbox drive, 12-volt-powered hose reel with 300 feet of 3/8-inch jetter hose, hose guides, a super swivel and foot-pedal control, emergency shut-off valve and hour meter. Optional remote features include hose reel-in, motor off/speed control and pressure on/off. 800-315-5533; [www.easykleen.com](http://www.easykleen.com).



### Satellite | PolyPortables Pathfinder

The **Pathfinder** from **Satellite | PolyPortables** is a pressure washing and sanitizing system that mounts to any service vehicle. It has a low-pressure, chemical injection delivery system that portions the chemical and water mix for maximum effectiveness. The system allows the user to spray a hospital-grade, U.S. Environmental Protection Agency-registered disinfectant like Enviro Bac 2 evenly throughout the restroom. The custom selection nozzle allows the user to switch from high to low pressure for any application. It is offered with a Flojet washdown pump for low pressure (50 psi at 4.5 gpm), or Cat high-pressure pump (1,000 psi at 2.5 gpm). 800-883-1123; [www.satelliteindustries.com](http://www.satelliteindustries.com).



### SEPTIC FILTERS

#### BioMicrobics SaniTEE

SaniTEE nonclog effluent screens from BioMicrobics deflect solids back into a tank while simultaneously attenuating surge flow. They drop in a standard 4-inch septic tank (for new builds or retrofitted) outlet tee. They are easily cleaned with a clean-in-place swab handle with a Buna-N disk fastened to the shaft. To clean, move the swab handle up and down to pass the swab through the center several times to act as a reverse pump to dislodge debris in the filter or angled slots. No removal or running water is necessary. Solids touching the vertical surface of the screen tend to slough off and fall back into the septic tank, making it somewhat self-cleaning. In general, the 4-, 8- and 16-inch screen should be for use on conventional and advanced septic systems, and is suitable for all types of commercial high-strength wastewater treatment systems. 800-753-3278; [www.biomicrobics.com](http://www.biomicrobics.com).



#### Polylok PL-250

The PL-250 effluent filter from Polylok is designed to handle up to 3,000 gpd with 250 linear feet 1/16-inch linear filtration. It's easy to install and is designed for functionality and longevity. The cartridge cannot be installed incorrectly, with no direct bypass, and will fit any standard 6-inch tee. Its W design prevents solids from settling. 877-765-9565; [www.polylok.com](http://www.polylok.com).



### SEPTIC VACUUM TRUCKS/TRAILERS

#### Imperial Industries aluminum vacuum trailer

Aluminum vacuum trailers from Imperial Industries are available in 5,000- to 8,000-gallon models, with optional anti-corrosion interior tank coatings and an OSHA-approved catwalk with handrail. Tanks are available in carbon steel, stainless steel or aluminum. Various vacuum pump and blower options are available. They come with 11R 22.5-inch wheels, and handle 25,000 pounds per axle. 800-558-2945; [www.imperialind.com](http://www.imperialind.com).



#### KeeVac Industries septic trucks

KeeVac Industries septic trucks have tanks constructed from marine-grade aluminum, stainless steel or steel. These tanks are mounted onto the customer's choice of chassis for a complete service solution. A variety of safety lighting packages are available. Custom sizes are available with engineered drawings. A variety of vacuum pumps and water pumps are available. 866-789-9440; [www.keevac.com](http://www.keevac.com).



#### Pik Rite steel 3,600-gallon vacuum tank

The Pik Rite steel 3,600-gallon vacuum tank is designed for strength and reliability. Its 3-inch internal plumbing keeps the exterior clean and simple. The vacuum pump mount is attached to both frame rails and easily supports pumps from any major pump manufacturer. The waste compartment has four sight eyes. The tank interior is equipped with walk-through baffles and a 20-inch rear manway for easy clean-out. The LED running light kit is installed with a fully molded wire harness. Operator work lights and a strobe light are mounted on the top-rear lighting bracket. Polished aluminum hose trays and the low hose hooks are coated with protective liner. 800-326-9763; [www.pikrite.com](http://www.pikrite.com).



#### Presvac Systems Liquid Vac

The Presvac Systems Liquid Vac with full-opening door and dumping tank can be configured to suit a broad range of applications, including collection and transport of hazardous and nonhazardous liquids, slurries and sludges, septic system cleaning, line jetting and material transfer. The full-opening door and large tipping angle make tank clean-out easy. Options include 200 to 1,500 cfm at 28 inches Hg, tank volumes of 500 to 5,500 gallons in carbon steel, 304 and 316 stainless steel, and 316 high-polish stainless steel. Options include a water pump, transfer pump, custom hose trays, toolboxes and heated valves. 800-387-7763; [www.presvac.com](http://www.presvac.com).





## SLUDGE SAMPLING EQUIPMENT

### Sim/Tech Filter TruCore

The TruCore from Sim/Tech Filter is a large-diameter, accurate, user-friendly sludge sampler designed for use in sludge common to septic tanks. It allows samples to be taken quickly without creating excessive turbulence, as there are no restrictions caused by valves, stoppers or flaps. With a 1 3/8-inch I.D., the capacity per foot is almost 10 ounces. The straight-through design allows the sample to be effortlessly returned to the tank. The unit is made of a polycarbonate sampling tube (marked every foot) and PVC fittings. It comes as a single-piece, 8-foot unit or as two 4-foot units that slip together. Custom sizes and configurations are also available. A simple and customizable extension kit is available for deeply buried tanks. 888-999-3290; [www.simtechfilter.com](http://www.simtechfilter.com).



## SMOKE LOCATOR/DYE

### Superior Signal 5E Electric Smoker

The 5E Electric Smoker from Superior Signal offers a cost-effective and green solution to find difficult leaks and odors in residential and commercial plumbing systems. Connect the blower to any plumbing clean-out or vent, with the appropriate-size smoke candle to force smoke through faults and cracks, easily identifying sources of odor and hard-to-find leaks. Smoke candles produce a highly visible, nontoxic smoke and are biodegradable. They are manufactured with zero-waste stream and include labels printed with vegetable-based ink on recycled paper, as well as biodegradable, recycled paperboard tubes. The unit does not generate harmful exhaust gases and handles all residential and commercial smoke-testing applications. Smoke tests take minutes to perform and see immediate results. The unit comes with an 8-foot, industrial-grade flex hose, weighs 8 pounds and requires no maintenance. 800-945-8378; [www.superiorsignal.com](http://www.superiorsignal.com). □



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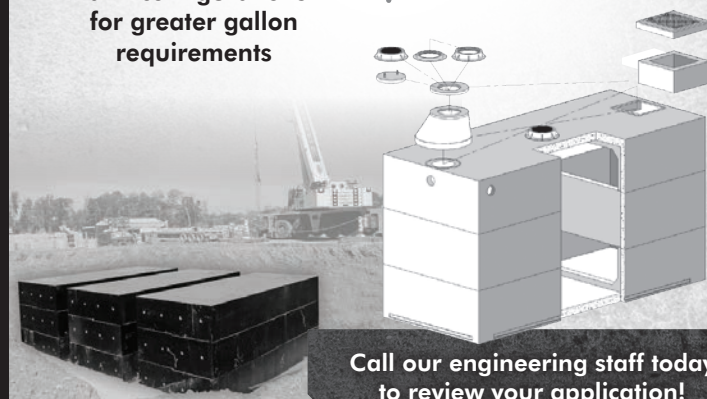
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## PRODUCT NEWS

### PRODUCT SPOTLIGHT

#### SlatTrax system is designed to protect landscaping during construction

By Craig Mandli

Installing an onsite septic system can be a messy job — if you let it. Fortunately, precautions can be taken to ensure minimum damage is inflicted on the property during the excavation and installation process. Also, there are situations where cover is necessary to get in and out easily.

One of those precautions is SlatTrax — a ground protection system designed to lay out a temporary roadway in two minutes. The system includes options of a hydraulically powered skid loader attachment or a manually handled version (DIY). The Trax are 3/4-inch-thick plastic and are available in widths of 36, 42 or 48 inches. Break-point sections in Trax allow for additional maneuvering.


SlatTrax is designed to increase work crew productivity and provides an alternative to plywood and mats. It can be used on hills, curves, turf and hard cover. According to Gary Ringus, SlatTrax president, the system is a solid fit for the onsite septic system installation industry.

“There isn’t a segment of construction, repair, remediation or maintenance where SlatTrax may not be considered for site access and ground protection,” he says. “While the hydraulic system rolls out and retrieves 100 linear feet in



two minutes, the DIY product is also easy, as the Trax are dragged off the pallet into position and are simple to reload onto the reusable pallets.”

Sections of SlatTrax are connected with grip straps and can be arced into curves of an approximately 25-foot radius. According to Ringus, the mass and length of the SlatTrax sections effectively holds them securely, even on hills. Although one person can handle a section of SlatTrax, according to Ringus, they are more easily deployed with two crew members. He believes use of products like SlatTrax show contractors are willing to invest in customer satisfaction. Their use also helps avoid unnecessary ground repair.

“I believe the relationship between contractors and customer is changing. There’s more regard and accountability for contractors to protect property conditions with the most efficient, productive and professional solutions,” he says. “Bids, estimates, proposals and contracts used to leave it up to the customer/client to repair damaged grounds. Smart contractors are including those repairs in their plans and end up with happier customers.” 877-781-7767; [www.slattrax.com](http://www.slattrax.com). 

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## INDUSTRY NEWS

### First Supply's Katie Poehling Seymour wins Woman of the Year award

The American Supply Association's Women in Industry Division recently announced First Supply Chief Administrative Officer and COO, Kitchen and Bath Stores, Katie Poehling Seymour is the recipient of the 2020 Alice A. Martin Woman of the Year award. She was to receive the award at the Women in Industry ELEVATE2020 event in Charleston, South Carolina. The event was cancelled due to the COVID-19 pandemic.



Katie Poehling Seymour

### KSB names Maturana as president

KSB announced the promotion of Luis Maturana to president. He joined KSB in 2018 and had served as vice president of the water and wastewater division. He received his Bachelor of Science degree in materials science engineering from Simón Bolívar University in Caracas, Venezuela. Prior KSB President Dr. Falk Schäfer remains with the company and is moving to the global headquarters in Frankenthal, Germany. He will serve in general industry as vice president of applications.



Luis Maturana

### Jim Murray announces name change and office move

Jim Murray announced the company name will change to JMI Pump Systems, and also that the company is moving into its new Germantown, Wisconsin, facility. Providing products and services to Wisconsin and Northern Illinois since 1958, JMI was founded by Angela and Jim Murray.

### Milwaukee Tool opens new service hub

Milwaukee Tool expanded its footprint with a new service hub in Greenwood, Indiana. Anticipated to open in March 2021, the centralized repair facility will complement the company's other service hub in Greenwood, Mississippi. Both the Indiana facility and service hub in Mississippi will act as the main axis points for the company's service operations for users around the U.S. The Indiana facility will employ more than 450 people. □

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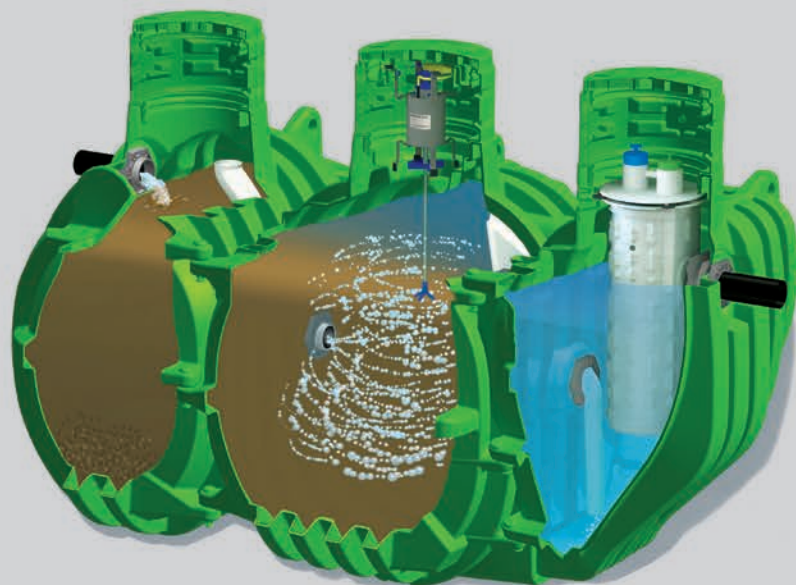
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