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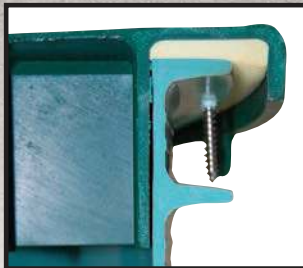
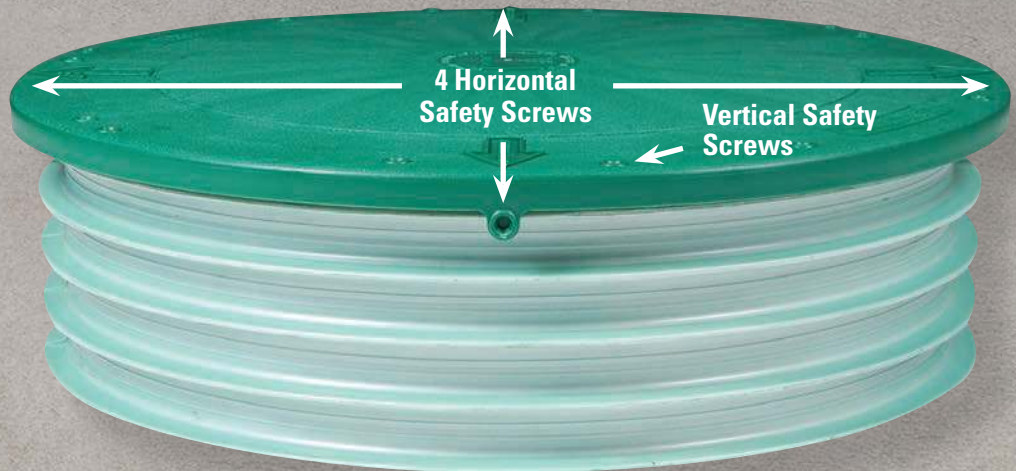
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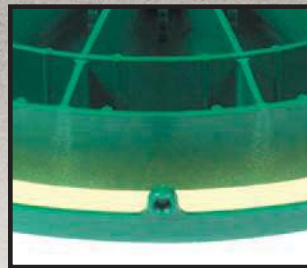
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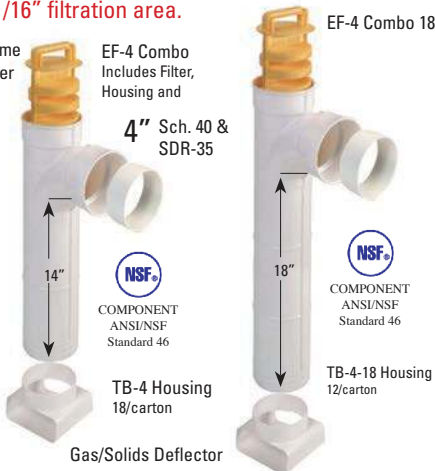


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Injection molded T-Baffle™.

- Injection molded T-Baffle
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### INSTALLER PROFILE:

**Digging a New Career** By David Steinkraus

### ON THE COVER:

Childhood friends Josh Melanson and Clint Watrich reunited years later to take over a Vancouver, British Columbia, installing business and renamed it Dirtwerx. Watrich, left, and Melanson are shown at a work site with a John Deere 135C excavator. (Photo by Taehoon Kim)

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#### Follow These Tips to Beat the Summer Heat

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Be sure to check out our exclusive online content.

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## Enjoy this issue!

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







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

# Follow These Tips to Beat the Summer Heat

As you come up on the hottest weeks of the installing season, it's important to remember the dangers of heat-related illness

**H**ave you heard this old summertime line? "It's so hot outside you could fry an egg on the sidewalk." If you're going to test the old wives' tale, now would be the time. We are in the middle of the hottest part of the season for folks who earn their living outdoors, and that includes installers working hard as the sun beats down over a drainfield under construction.

Your crews are caught in a Catch-22 situation these days. Most of the year they can't wait for the warm weather to arrive. In the fall they curse the finger-numbing cold as they race to get that last system put in before the ground freezes. In the early spring, the cold wind and rains cut through their outerwear and create a chill even a hot shower can't erase.

But now they're not so sure they really wanted that wish for warm weather to come true. Have you ever gotten out of the air-conditioned truck after a lunch break and felt the oppressive heat roll over you and take your breath away? Or do you rush to start the workday before the sun peeks over the horizon so you can quit at high noon to beat the heat?

Yeah, I know you have. All too often. Installers deserve props for working in some pretty tough conditions, and sticking with it to get the job done. These septic systems don't build themselves, and your customer isn't in the mood to wait any longer to flush the toilet.

It was with your frontline workers in mind that I recently took the time to read all the resources I could find about beating the heat at the U.S. Department of Labor website: [www.osha.gov](http://www.osha.gov). There are pages and pages of information, and I thought I would distill the expert advice down to a few minutes' worth of review you could share with your crew in a morning tailgate meeting.

Of course, I encourage you to dig further into this important safety topic and read the OSHA materials on working in the summer heat. But if you want to wait for the off-season to wade through it all, here are a few tips to help get you through this hot spell and keep your guys safe when the thermometer zeros in on 100 degrees F.

## Appoint a team member to monitor working conditions.

Have someone on your team study heat-related issues and check temperatures throughout the day. Trained to look for symptoms of heatstroke, the designated person should check on each worker once an hour. They should make sure employees are taking in adequate amounts of water, finding shady spots for occasional breaks and match the proper attire for the conditions. They can also review a daily checklist of heat-related safety precautions with the team.

## Create a work/rest policy and follow it.

Try to balance periods of hard labor in the hot sun with less strenuous work or frequent rest periods in cooler areas. This may mean sitting in a lightly air-conditioned work truck or in a shady, breezy area. Frequently assess conditions on the job site and shorten work periods as the temperature rises, humidity increases, and the sun gets stronger, and when there is no air movement, work is particularly strenuous and bulkier personal protective equipment is worn.

**Balance periods of hard labor in the hot sun with less strenuous work or frequent rest periods in cooler areas.** This may mean sitting in a lightly air-conditioned work truck or in a shady, breezy area.

OSHA categorizes five levels of outdoor exertion, and installers consistently meet the two most strenuous levels: heavy (transferring heavy materials, shoveling, digging, and pushing and pulling loaded handcarts and wheelbarrows) or very heavy (heavy shoveling, climbing stairs, ramps or ladders). Taking that into account, be very liberal with your cool-down times when temperatures are highest.

As part of the policy, encourage workers to follow commonsense tips such as wearing sunscreen to protect against skin cancer and a hat to shade the face and neck, as well as choosing water over soda to keep hydrated.

## Ease your crew into the hot weather.

Most of you have gradually become accustomed to the hot weather over several weeks. But you need to be careful when putting someone to work who, for instance, is a new hire, typically works in the office or drives an air-conditioned truck, or has been on sick leave or vacation for some time. Those workers should do 20% of their normal workload the first day and add 20% per day until they are going full speed. When you encounter a stifling heat wave, all workers should do 50% of their normal workload the first day and work harder on subsequent days. Slow acclimation results in physical changes that help dissipate heat better.



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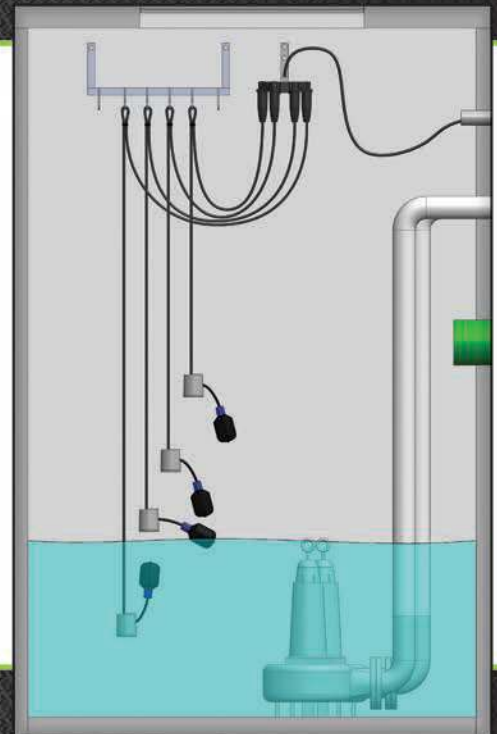
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### Know your medical emergency options.

In the event someone suffers symptoms of heat-related illnesses, move the worker into a shady area, loosen his or her clothing, wet and fan the skin, and put ice packs in the armpits and on the neck. Give the worker a drink. Be prepared to call emergency services if the person loses consciousness or is confused or uncoordinated. Make a daily note of the location of the nearest hospital or clinic so you can respond quickly if a person is in danger.

### What are the signs of a potential problem and steps to take?

**Heatstroke.** Symptoms include confusion, fainting, seizures, excessive sweating and very high body temperature. Call 911, keep the worker cool, and provide fluids and cold packs under the armpits.

**Heat exhaustion.** Symptoms include cool, moist skin, heavy sweating, headaches, nausea, vomiting, dizziness, weakness, thirst and irritability. Have the worker sit or lie down in a cool place. Take him or her to a clinic or emergency room for medical evaluation. Do not have the employee return to work that day.

**Heat cramps.** Symptoms include clusters of red bumps on skin, often appearing on the neck, upper chest and folds of skin. Try to work in a cooler, less-humid environment and keep the affected areas dry.

### KEEP IT COOL

Heat-related illness is serious business. What might seem like a minor fainting episode brought on by overheating can quickly escalate into a life-threatening situation. When the work piles up and customers are demanding, you all want to power through the sweltering summer weather. But sometimes it's best to slow down and take precautions to protect your crew during the hottest time of the year. □

## To the editor:

Just a quick note to express my appreciation for the job you folks do with the *Onsite Installer* publication. I enjoy reading every issue from cover to cover, and I am always impressed with the insight, interest and knowledge I gain by reading about other contractors' methods, and cutting-edge products. And I also find Jim Kneiszel's Editor's Notebook a must-read every month. You are truly a positive influence on our industry in leading the discussion regarding the arena of ideas and in emphasizing the benefits of decentralized wastewater treatment. Keep up the great work!

Andrew Damiani  
Damiani Septic and Site Contracting  
Telford, Pennsylvania



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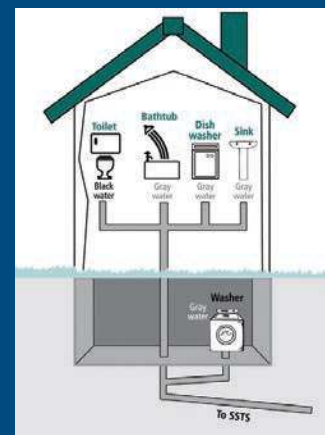
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— 6 Technology Updates to Make Your Installing Business More Competitive

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## ON THE LEVEL

### Accurate Instruments

It's important for installers to keep their surveying equipment in good condition. These instruments are sensitive so taking good care of them should be a priority. Periodically, you should test the accuracy of your readings with a two-peg test. Here's how to do it.

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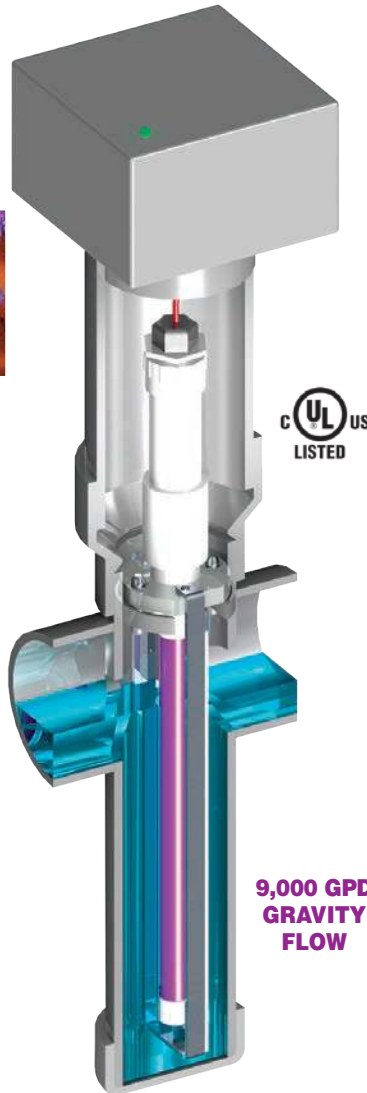
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## INSTALLER PROFILE

➤ Josh Melanson, left; Tim Wilson, in the background; and Clint Watrich assemble PVC piping as part of a new onsite system in Langley, British Columbia. (Photos by Taehoon Kim)



# DIGGING A NEW CAREER

Childhood friends Josh Melanson and Clint Watrich reunite and tap into a growing market for septic system installation around Vancouver, British Columbia

By David Steinkraus

**A**fter growing up in Vancouver, British Columbia, Josh Melanson and Clint Watrich went their separate ways. But after working for several years, they wanted different and better careers and found them in the wastewater industry back at home. And happily, they are starting in the industry as business is booming.

Melanson went to Southern California in his mid-20s, drawn by the expanding technology industry, and worked as an independent construction contractor for wireless communications companies. After he married and had children, he felt drawn back to British Columbia to be near his family. There, he reconnected with Watrich who was feeling the strain of a long career in corrections for the Canadian government.

A couple of years ago, Melanson was working as senior vice president of business development for a regional British Columbia contracting company when he hired Tim Wilson to work on his home wastewater system. Melanson knew the corporate world was not for him and wanted to be his own boss again. Wilson was contemplating retirement. Melanson asked whether he would consider selling his business. Wilson would. Melanson brought in Watrich, and in the spring of 2018, Wilson Tractor Service of Langley in suburban Vancouver became Dirtwerx.

Melanson and Watrich, both 44, have known each other since they were 12, and together they form a complementary team. Watrich has no experience in construction, but he learned a lot about leadership during his corrections career and after serving 18 years as a military reservist.



"I talked to him a couple of times about a website and business cards, and he chuckled and told me he hasn't advertised since 1984."

Josh Melanson

Melanson brings his experience running a construction business.

## DIVERSE INSTALLS

The company's territory is the Fraser River Valley east of Vancouver, south of the coastal mountains and up against the U.S. border. It is home to farms, subdivisions and small cities.

Vancouver consistently ranks among the top 10 most livable cities in the world. It has a strong economy, mild climate and easy access to mountains and the ocean for recreation. People from outside are moving in for that quality of life, and people in the city are moving out to suburbs and rural areas. That brings a diversity of problems to solve and means Dirtwerx installs a variety of onsite systems.

"Having not been experienced in that, and growing up on septic and having experience with a simple gravity system, I had no idea there are so many different types of systems. For a while, it felt like we never put the same type of system in twice," Melanson says.

Gravity systems with a standard tank and drainfield represent one end of the company's spectrum of jobs, about 15% of the workload. For suburban lots, like the one Melanson lives on, they may install miniature treatment plants, pressure systems, UV, the whole range, he says. Knowing what should go where is not difficult because Wilson remains a consultant for the company. Although he started in the industry decades ago, he is very much up to date on the newest and best options in the market, Melanson says.

The company operates with a small inventory of equipment and depends on rental companies for specialty equipment such as mini-excavators. The standing list of Dirtwerx equipment is a John Deere 135C excavator; Peterbilt 357 dump truck with a box by Langfab in Surrey; and a 25-foot low-boy trailer by Trail-Eze. The company also has a Spectra Precision GL412N laser level.

## DESIGN RESPONSIBILITY

In British Columbia, there are no government inspections. As of 2005, complete responsibility for proper design and installation rests with the contractor, Wilson says. It's called the professional reliance system.

"We have no government oversight, no government inspections," Wilson says. "We're not required to have an engineer do the design or have oversight on the systems. I took all the courses, and I am certified as



▲ Tim Wilson accesses an Aquaworx control panel from Infiltrator Water Technologies, during an onsite system installation.



**Dirtwerx**  
**Langley, British Columbia**

Owners: Josh Melanson, CEO, and Clint Watrich, chief operating officer

Founded: 1979 as Wilson Tractor Service, incorporated as Dirtwerx in 2018

Employees: 3

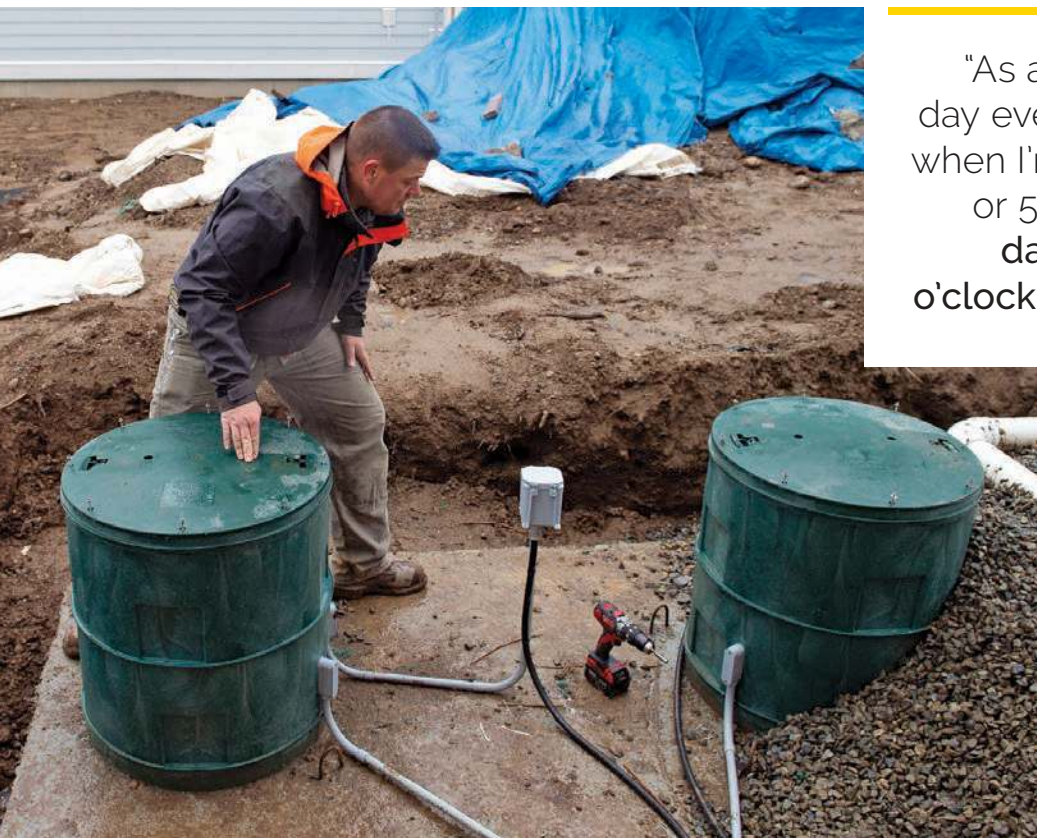
Service area: 60 miles east from Vancouver along the Fraser River

Services: Onsite system design and installation

Affiliation: Western Canada Onsite Wastewater Management Association

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





▲ Clint Watrich installs Polylok risers over Manco Septic Solutions concrete tanks as part of an ECOPOD by Delta using a Fuji Clean USA blower.

"As a business owner, you could work all day every day. ... Yeah, there are some days when I'm working on estimates at 9 at night or 5 in the morning, and there are other days when I bounce out of work at 12 o'clock on Fridays, which is kind of a goal."

**Josh Melanson**

a planner-installer in my own right. I have a little rubber stamp, same as the engineers do, and I sign off on my own stuff."

To his knowledge, British Columbia is the only Canadian province with this system.

"When there's no oversight, some of the more unscrupulous people tend to cut corners, and when I do a quote, I have to bid against them," he says. "It's a little frustrating in that respect." But he doesn't want to return to the times when he had to wait three days for an inspector to show up and approve his work. And if he thinks of some adjustments to make in his plans, he can make them without asking anyone's permission.

## PERFECTING THE WORK-LIFE BALANCE

"Running a business isn't new to me, and I have the support of a wife who has seen me in business before," says Josh Melanson, CEO of Dirtwerx in Vancouver, British Columbia. With his experience working as a contractor in California, Melanson has some habits to keep both the business and personal parts of his life on track. It starts with one key skill.

"I'm very good at managing my time," he says. You need the work to support your family, he says, but what does it matter if you provide the big house but aren't there for your children's lives?

"As a business owner, you could work all day every day. You've got to have an idea of all the things that need to get done and when they need to get done. And, yeah, there are some days when I'm working on estimates at 9 at night or 5 in the morning, and there are other days when I bounce out of work at 12 o'clock on Fridays, which is kind of a goal, and I go duck hunting with my buddies. Or I bounce out on Wednesday afternoon to catch my daughter's volleyball game."

There are some tools he uses to accomplish this, but not what one might expect in the era of phone apps for every part of life.

"I carry a notebook with me at all times, and on a daily basis, I capture a list of activities that have to happen that day, and I physically cross them off when they're done."

This creates a visual list of action items, from estimates to ordering to returning sales calls.

"As you mark that off, it frees your mind." As an entrepreneur, there are always moments late at night when you remember some task that wasn't done. But write tasks down and cross them off, and you stop worrying, he says. Yes, it's old fashioned to use paper.

"It's terribly unsexy for a guy who's been in technology his whole career. I've tried all of those apps, from Evernote to To Do List to Notes in my phone — boy, there's something about the paper notebook. It's very simple. It's very tactile," he says. "I do leverage my calendar in my phone. I still like the calendar for set appointments like sales calls."

The other tool is being disciplined about personal time. "And you have to be disciplined."

Melanson makes a point of never talking on the phone when he comes into the house at the end of the day. It's important for him to pay attention as he greets his wife, Renee, and children. "I'm not going to bring work in the door the first time they see me as I come home." And he makes every effort to be home for dinner with his family.



"I like it," he says. "For one thing, I like to do the design work. I actually took a night course and learned to use AutoCAD so I can make my designs look nice."

A job site is like a blank canvas, he says. He has to figure out where to put the system and what to use, and then build it. "And when I'm done, I can stand back and say, 'Yeah, I did that, and it works fine.' And there's a lot of satisfaction in that."

This freedom of action attracted Melanson as well. It makes the company the authority. Given his background in California construction, British Columbia's system was a shock. "I was a licensed electrician in California, but that didn't mean anything. The city of Los Angeles was still coming out to inspect my work and tell me what I did wrong, if anything. And then I see this," Melanson says.

>> Clint Watrich tests pressure distribution in a sand mound, time-dosed system during installation.



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▲ Tim Wilson, left, and Clint Watrich install PVC pipes for a residential onsite system. A Spectra Precision GL412N laser level is shown in the background.

▼ Melanson, from left, and Watrich bought the company from Wilson, who stayed on to help them learn the installing industry.



Of course the British Columbia system also transfers all liability to the contractor. Wilson says he was paying about \$5,000 a year for insurance and omissions, pollution and general liability coverage.

A small percentage of the company's jobs are commercial, but the company is open to more, Melanson says. A separate division of the company, an outgrowth of Melanson's background in heavy construction, does large commercial projects.

## WORKING WITH BUILDERS

Wilson started Wilson Tractor Service in 1979 doing general excavation work, and he did that until 1991 when he found a mentor and friend, older than he was, who brought Wilson into the wastewater industry. In 1995 the friend and mentor died, and Wilson kept going.

"At that time, I switched from backhoe to excavator. I had a small Bobcat excavator, like a (Model) 100, which they don't even make any more," he says.

Wilson is 72 now. For a decade he worked with another installer with his own company. About three years ago, that partner went off on his own. "At that time, I thought, Well, I'll just fade into the woodwork, maybe do a little consulting for other people," he says.

Then he met Melanson and Watrich and heard their offer to buy his business. "I did check into them. They're pretty decent guys, and they want to do it right. That impressed me right off the bat — that they were concerned about making the right choices and doing the right thing."

Most of Wilson's returning customers are custom-home builders doing three to 10 jobs per year. To make the transition of owners go smoothly, Wilson does personal introductions to his customers on a job site and explains who the new invoice will come from. "It's worked pretty well. We have not lost any customers over the transition."

During the first year, Watrich went through British Columbia's onsite



design courses and obtained a certification. He is now learning from Wilson's experience. Wilson says his training is informal. "I take them to the bad jobs and say, 'Here you are. What are you going to do?' He figures it out, and then I pick holes in his design. Early days, it took half a dozen tries before he got it right."

The sale agreement requires Wilson to stay on as a consultant for two years. His time on the consulting is, "to be honest, more than I would like," he says. "I probably spend 40 or 50 hours a week doing it."

He works with Watrich every day, then goes home to do his own paperwork and check Watrich's work. But he also has a 30-foot oceangoing boat that he wants to get in the water. "I have a couple of Harleys that I'd love to go riding on. I have lots of air miles saved up, and I'd like to see the Panama Canal."

"The thing that has worked best in my whole career is this: **When you are perceived as the expert, getting business is easy.**"

**Josh Melanson**

## THE GROWTH PLAN

Wilson never advertised — never found the need to.

"I talked to him a couple of times about a website and business cards, and he chuckled and told me he hasn't advertised since 1984," Melanson says.

Melanson comes from a different world. Working in business development for his former employer was difficult because of the amount of competition. "Then here's a guy with a great business and he does no advertising."

For their first two years, Melanson says he is talking to people about the sale of the business and the story of how that happened. "Canadians being very conservative people in general, I've kind of been doing it in a very soft way to make sure there's a good comfort level."

An advantage is that his wife, Renee, spent her career in digital marketing. Growing the business will involve heavy use of social media, such as Facebook, but doing it very locally. "That's the real goal: to leverage what (Wilson) has done and built, get that story out there and try to gain momentum on a local level," he says. "The thing that has worked best in my whole career is this: When you are perceived as the expert, getting business is easy."


In the short term, the goal is to double the business. That's the simplest strategy, and given the relatively restricted geography of the area, that should be easy for Watrich, who must oversee all the work because he holds the designer's certification, Melanson says.

But he's also honest about his knowledge of the industry and the market. "I still don't know what I don't know about the market opportunity — how many systems it's feasible for us to do."

At the same time, the housing market is booming, he says. Keeping up with it is a challenge — the job calendar is full for the foreseeable future — but at the same time, growing the business requires money, and Melanson and Watrich are just starting out.

Part of the future for Dirtwerx lies in the retirement of the people who entered the business 20 or 30 years ago and will soon be retiring, he says.

"I have a shotgun philosophy where I start pushing on a whole bunch of things, and as one moves, I give it more attention. And I have this problem: I see opportunities everywhere," Melanson says.

With all that enthusiasm and strong demand, Dirtwerx is poised to grow. 

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# 'We Are Progressing in a Very Positive Direction'

The head of the New Brunswick onsite association is upbeat about the future but says challenges remain, including enhanced regulations and recruiting younger people to work in the field

Compiled by Betty Dageforde

*In States Snapshot, we visit with a member of a state, provincial or national trade association in the decentralized wastewater industry. This time we learn about a member of the New Brunswick Association of Onsite Wastewater Professionals.*



**Mike Stairs**  
president/owner

**Business:** Mike Stairs General Contracting,  
Lakeville Corner, New Brunswick

**Age:** 56

**Years in the industry:** 38

## Association involvement:

I've been involved in the New Brunswick Association of Onsite Wastewater Professionals since its inception in 2010. I was the chair of the steering committee to put it together, and once we were officially an association, I served as president for three years. Then for a couple years I had no involvement, but I'm currently once again the president.

## Benefits of belonging to the association:

Learning about new technologies and methods available to the clients from industry professionals and enhancing the protection of public health,

generally at a more economical cost over the long term than traditional wastewater installations.

## Biggest issue facing your association right now:

There is a lack of meaningful dialogue and input with the regulator. Until 2016, installers were able to communicate directly with the Department of Health, which included health inspectors for field inspections and the office of the chief medical officer of health. Since 2016, administration of regulations and field inspections are being done by the Department of Public Safety, which is plumbing inspectors. This produced several challenges in the first season regarding percentage of slope, soil structure, frost protection and other issues not normally encountered by the plumbing industry. By 2018 things noticeably improved as the inspectors learned the new (duties). The overall communication process, however, is quite complicated. Currently, if an issue surfaces that is beyond current regulations, the plumbing inspector reaches out to the Department of Health that in turn contacts former departmental staff now located in the Department of Environment for potential resolution. It also appears the New Brunswick Association of Onsite Wastewater Professionals has lost its platform for meaningful input into regulatory changes.

## Our crew includes:

My wife, Shelley, and I are the constants. She also has full-time employment as a medical lab technologist. We've had a different full-time employee in each of the last three years. Prior to that, we had two employees for 10 years. We have more work than we can handle, but finding the right fit for the right person is proving to be a challenge.

## Typical day on the job:

My day starts at 6 a.m. The trucks are usually loaded with supplies the night before. We leave for a job site, which is generally located one to 1 1/2 hours away. Our subcontractors and suppliers are lined up well in advance, and we can generally accommodate two conventional installations per day. We do, however, specialize in aerobic treatment units, specifically Norweco's Singular Green, as well as a variety of nonconventional field installations. I usually return to the shop/office between 7 and 9 p.m. Unless it's an emergency, we try not to work Friday afternoons and weekends.

continued >>



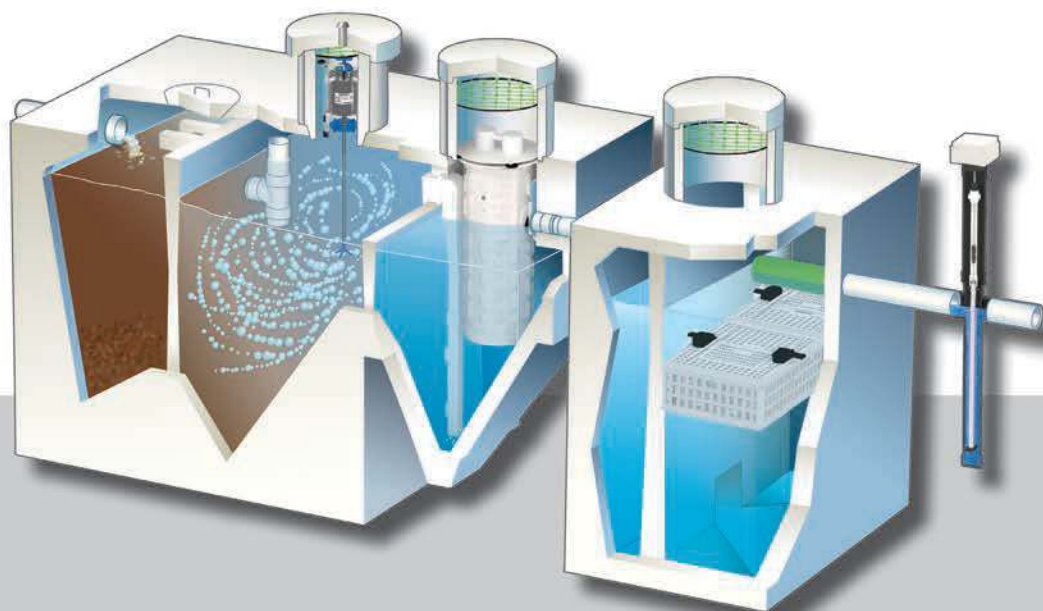
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## STATES SNAPSHOT

» This is evidence of the job Mike Stairs will never forget. His Case excavator ran over the location of a deteriorating steel tank and collapsed into the mud.

### Helping hands – Indispensable crew member:

My wife. I have her unequivocal support — financial, psychological, whatever — she's there.

### The job I'll never forget:

I was called in to change out a steel septic tank for a concrete one for a person in their mid-80s. It was located "out there somewhere." Having used all the traditional methods — metal detectors, probes, dye, color of the vegetation — after two hours we started an excavation investigation. As luck would have it, the track on our Case CX50 mini-excavator drove directly alongside the corrupted steel tank, which immediately collapsed. It never happened in 38 years, but it happened.

### My favorite piece of equipment:

Aside from my builders' level, it would have to be my Case CX50 mini-excavator with a hydraulic thumb. It's amazing how much work you can accomplish with this small unit. It's easy to move. I can haul it behind my 2014 Dodge Longhorn truck or my 1999 International Keith Huber vacuum truck with a Masport pump. When compared against our larger excavators, it consumes a minimum amount of fuel, can be economically purchased and, given the right operator, is very precise when it is being used as an excavating tool.

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

We were called to a site of a 2-year-old home with a malfunctioning system. We were the last of a dozen contractors to be contacted and were confronted by an infuriated homeowner whose initial greeting was "Hi, I'm Jason, and I don't mean to be short but I'm not telling you anything about my wastewater system. You look it over and tell me what's wrong with it." After determining property lines and tank volume, we found nine glaring regulation violations with the original installation. After identifying them with the homeowner, he said, "That's more than even I knew about and some that none of the other installers found. You're hired!"

We attempted reconciliation between the previous installer and the homeowner on three occasions to no avail. This was mid-August, and we were pretty much booked for fall, but because of the hardship already encountered by the homeowner, we adjusted our schedule to do the installation. It was a five-bedroom home with an attached two-car garage on a slab. The existing wastewater system exited the rear into a largely bottomless bog about 2 feet above the water table. The imported material was substandard, virtually no aprons and taper. The existing infrastructure was too close to the property lines. In order to meet regulations, a complete rebuild utilizing a lift station was in order.

We had just purchased a new Case CX160 1-yard excavator with a root rake. In order to expand the system at the rear in a wooded area, we laid down trees in a corduroy-type configuration to support the weight of the excavator while clearing the bog. Upon completion, we realized two stumps would remain exposed after aprons and taper were completed. Not wishing to damage or use any more trees, we went off the corduroy to pull the stumps and immediately the excavator sank. Before we were done, an extension had to be welded onto the exhaust, as it was completely submerged. It was 3 p.m.



when this incident happened, and it was 10:15 p.m. on Oct. 31 in a light snowstorm with the aid of two more excavators and our dozer before this machine was on solid footing. We were the sideshow for all the trick-or-treaters that night!

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

The most common one is: "Why do I need to pump my septic tank?" We get that all the time.

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

I'd like to see a mandatory requirement for membership in our association. As a follow-up, newly licensed installers should be mentored for a minimum of five conventional systems before acquiring a regular license.

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

An older friend of mine in an unrelated business told me that debt is a good thing, unmanageable debt will ruin you, take on what you can comfortably afford and remain conscious there will always be a rainy day. In the beginning I'm not sure I followed it. As a small company, we had \$15,000 per month in payments, but we made it. I'm not sure I could do it again in today's climate.

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

Probably be farming. I've always loved running equipment. In fact, when I was younger, no one would hire me as an operator so at 18 years old, a year out of high school, I started my own company. The rest, as they say, is history.

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

I communicate with people involved in the residential wastewater industry in several other jurisdictions, both in Canada and the U.S. As a whole, I believe we are progressing in a very positive direction, especially with regard to newer technologies, further enhancing the protection of public health and the environment, and education for the homeowner. There appears to be an abundance of work in this industry, but I'm very concerned regarding the age of the average installer — the younger set just isn't getting involved in it. □

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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Technicians set the second MicroFAST 3.0 unit in a 4,000-gallon midseam tank for Maui Jack's Waterpark on Chincoteague Island, Virginia. At right is the first MicroFAST 3.0 to be installed. Two identical treatment chains handle wastewater from the park and the adjacent KOA campground. (Photos courtesy of Nature Works Inc.)

## Onsite Professionals Make a Big Splash at a Virginia Water Park Project

A new campground system featuring an aerobic unit and UV treatment allows tourist attraction expansion on environmentally sensitive Chincoteague Island

By David Steinkraus

**T**he team at Boggs Water & Sewage in Virginia had a tight time frame to meet the opening date for a new water park along the Atlantic coast.

First of all, there was the site itself. Although it isn't directly exposed to the ocean, Chincoteague Island sits right behind a barrier island that shields the mainland from ocean waves. Dig down a couple of feet on Chincoteague, and you're in the water table, says Nathan Thornton, vice president at Boggs.

The water park was added at a large KOA campground on the island and joined other tourist attractions there. It was a new installation, so there was no equipment to remove or reuse. The plan called for the system to serve a Tiki bar, as well as a building with bathrooms, a store and a snack bar. It was a small expansion, only 6,000 gpd, but because of the potential





◀ An overhead power line on one side of the installation site and sand beds on the other side created a narrow alley where a crane could work to set tanks. The team started at the end of the site farthest from the access road and set tanks in a row. After one tank was set, the crane was moved out to allow excavation of the next hole.

▼ Chincoteague Island is in the Atlantic Ocean, and high groundwater required the installation of wellpoints to dry out the job site. Technicians drilled 120 wells about 16 feet deep.



for impact on the island and nearby water, the system had to emit BOD and TSS at less than 10 mg/L and nitrogen of less than 8 mg/L. Yet there is also plenty of capacity in the system to allow for an expansion of the facility, for example with a restaurant. McCrone Engineering designed the expansion dual-train BioMicrobics FAST system.

## Dual train

Wastewater from the bar and service building flows through 4-inch Schedule 40 pipe to a collection station inside an 8-foot-diameter well. Two 2 hp grinder pumps (Liberty Pumps) send water through about 1,500 feet of 2-inch Schedule 40 force main to the treatment components. These were placed in a maintenance area on the edge of the property and away from the campsites and other public spaces.

The force main empties into a 6,000-gallon concrete equalization tank. Baffles inside slow down the surges. All tanks came from Gillespie Precast of Greenwood, Delaware.

A 6-inch pipe takes wastewater out through a SaniTEE filter (BioMicrobics) and into a distribution box. The box has six outlets for 4-inch pipes. Three pipes flow into one 4,000-gallon tank, three into another, and these tanks are the start of two identical treatment chains. The distribution box was a way to make sure the flow was evenly divided, Thornton says. Some flow levelers don't do that, but this box has speed levelers like those in a drainfield so technicians could dial in a perfect split.

Inside the first 4,000-gallon tank in the train is a BioMicrobics MicroFAST 3.0 unit. Second is another 4,000-gallon tank holding a BioMicrobics NitriFAST 3.0.

Third is a 1,500-gallon baffled tank that recirculates water with a WE0311L pump from Goulds Water Technology, a Xylem brand. These are controlled by timers set according to need by the system operator.

## System Profile

<b>Location:</b>	Chincoteague Island, Virginia
<b>Facility served:</b>	Maui Jack's Waterpark
<b>Designer:</b>	McCrone Engineering
<b>Installer:</b>	Boggs Water & Sewage, Melfa, Virginia
<b>Type of system:</b>	Dual-train BioMicrobics FAST system
<b>Site conditions:</b>	Sand
<b>Hydraulic capacity:</b>	6,000 gpd

Next is a BioMicrobics ABC-N 3.0 unit to convert the nitrate created upstream into nitrogen gas. This unit is housed inside another 4,000-gallon tank. This tank also has chemical feed lines for MicroC, a carbon source for microorganisms, from Environmental Operating Solutions Inc. (EOSi).



## SYSTEM PROFILE



◀ Technicians prepare to set another tank for the treatment system for Maui Jack's Waterpark and the nearby KOA campground on Chincoteague Island, Virginia. Wastewater is collected about 1,500 feet away and then divided into two identical treatment chains.

✓ The finished treatment system for the KOA campground and water park on Chincoteague Island is sited near maintenance shops about 1,500 feet from public areas.

Last in the chain is a 2,000-gallon tank holding a MicroFAST 1.5 aerobic unit.

The flow from both treatment chains is combined and flows through four SALCOR 3G UV units and into a 6,000-gallon dosing tank. A pair of American Mfg. pumps send water through 2-inch force main to a headworks box with solenoid valves that alternately dose the dripfields. There are also valves that can route wash water from the dripfields back to the head of the equalization tank.

The dripfield is fed by 1-inch lines. Tubing was laid on sand beds. Technicians put about 2 feet of sand on top of the soil, laid the dripline and covered it with 6 inches of sand. Grass cover absorbs any remaining nitrate. There are four drip beds, each 50 by 36 feet.

A BioMicrobics NEMA 4X panel controls the treatment system. The drip system is controlled by an American Mfg. Perc-Rite panel.

### Water, water everywhere

Because Chincoteague Island sits at sea level, one of the big issues the Boggs team had to deal with was groundwater.

"The dewatering of this thing was a lot," Thornton says. "We put in a wellpoint system to cover the whole area."

The working space was 140 feet long, 40 feet wide and 13 feet deep. It required 120 wells. Each was 1 1/4 inches wide and 16 feet deep. The pipes had 3 feet of screen on their ends and were drilled 3 feet on center. All the pipes connected to a manifold, and on the end of that was a pump (Godwin Pumps, a Xylem brand) to apply vacuum. Although the water table was at 2 feet, the wellpoint system dried the soil to the full system depth of 13 feet.

The team was ready to move in, but on the night before the job started, there was a freakishly strong storm. Thornton's garage was damaged by a falling tree, and the storm left about 6 inches of water behind. It put the wellpoint system to the test.



He had to pull the points up a bit, from 18 feet to 16, and then they worked better. At 16 feet the sandy soil transitioned into prehistoric marsh mat. What you generally want to do with this kind of installation is keep the screen just below the depth of the cut, Thornton says. If you don't, you may have a suction leak — pulling air into the system.

### Schedule headaches

Tanks were not available until later in the spring, and if the whole project had waited on them, the customer would have missed the Memorial Day opening date. So the dripfields were built from mid-February to mid-March. Tanks went in later.

The pressure-sensitive sand beds created a restriction on one side of the site where the tanks would be buried. On the other side was a high-capacity power line about 24 feet away from the site. There was enough height under the wires for normal equipment to work, and some of the excavated dirt was

stored there, but the power lines on one side and absorption field on the other created a narrow alley for equipment, especially the big crane needed to set tanks.

The team staged the work so it began at the end of the work area farthest from the access point. After a hole was complete, the crane moved in and the trailer with the tank on it came behind that. The crane set the tank and was moved out for excavation of the next hole.

Because of the power lines, the crane could not swing tanks in that direction. The only choice was to move tanks over the absorption field. And instead of a 70-ton crane, the job required a 100-ton crane because it was able to reach farther. Aerial Crane of Parsonsburg, Maryland, handled the job.

"The guy on the crane deserves a special thank-you. This needed some patience, and luckily he had plenty of it," Thornton says.

Digging holes required care. Tanks were set about 5 feet from the wellpoints, which were just beyond the tapered soil of the absorption fields. Excavation walls were more vertical than he wanted next to the absorption field, but with the soil dried out, the structure held, Thornton says. "But you didn't walk over there," he adds.

For the blowers and panels, they built a pad shaped like a sofa. The seat of the pad is about 30 inches off the ground because Chincoteague is a low-lying island prone to flooding. Blowers sat on the seat of the pad. Panels were mounted on the back. A 200-amp service was installed to run the system.

Tank installation began on April 15. On May 15 the job was finished.

"There were some long days," Thornton says. But the job was done when it needed to be done, leaving plenty of time for local inspectors to do their job and issue an occupancy permit and for Maui Jack's Waterpark to be ready for the summer tourist season. ■

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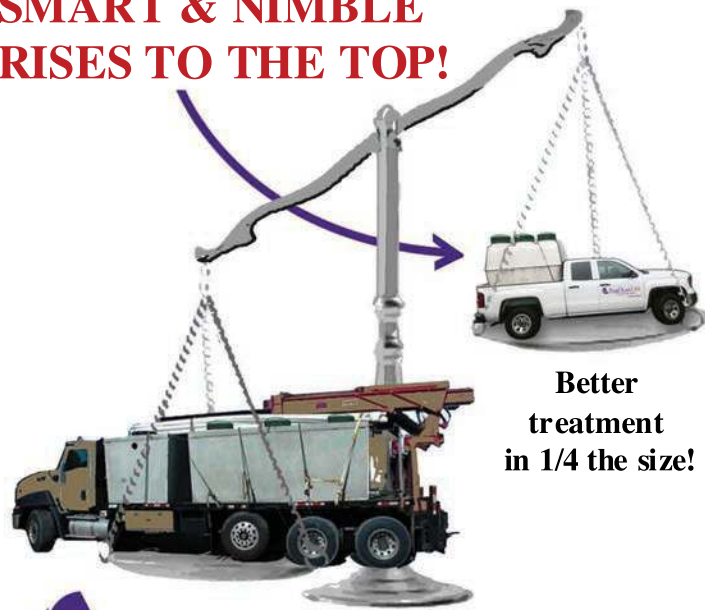
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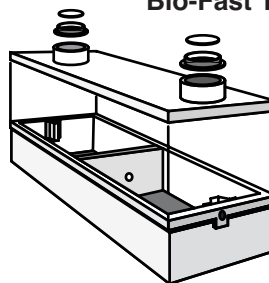
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# Lay Out the Ground Rules for Septic System Care

For the best results, keep the lines of communication open with customers before, during and after the installation

By Jim Anderson and David Gustafson

**A**t the beginning or end of our columns, we often talk about the responsibilities of the installer. We thought now might be a good time to take a specific look at the actions or activities an installer is responsible for through the eyes of the client or homeowner.

We have often said that an installer can never have too much communication with the homeowner to explain how and, more important, why installation activities need to be performed the way they are. And further, we need to explain how homeowners — through their actions — can affect long-term system performance, either positively or negatively.

It should be obvious that the primary responsibility of an installer is to install the system according to the design plan. If the installer is also the designer, they have a responsibility to design the system according to all current state and local codes. Similarly, the system must be installed in accordance with all current requirements to obtain an operating permit upon completion.

## EXPLAIN EVERYTHING

A preinstallation meeting should review the design and the plan, walking through the area of installation and showing the homeowner or builder where each component will be placed and why. It should be impressed on the homeowner that while you, the installer, are responsible for the proper installation of the system, they will need to use and maintain the system properly once they take ownership.

A note here specific to Minnesota: Our code requires that the designer/installer provide the owner with a management plan for the system, detailing activities that must be followed in terms of maintenance, use and care of a system. It is a reference resource to be used by the homeowner, much like a maintenance plan for a furnace or other appliance.

Before a backhoe touches the ground, the installer and homeowner need to agree on what the area of installation will look like when the installer is finished and the owner takes over. **Specifically, who will do the final grade and establish a vegetative cover?**

Before a backhoe touches the ground, the installer and homeowner need to agree on what the area of installation will look like when the installer is finished and the owner takes over. Specifically, who will do the final grade and establish a vegetative cover? Regardless of who is going to do the final grading and cover, it must be clear the system should not be buried deeper and any fill placed should be suitable to establish a good ground cover. The fill should also be used to smooth out any depressions or holes caused by settling around tanks or trenches.

It should be emphasized that following the final grade, any extra water should be directed away from the system. This not only includes routing downspouts away from the system, but also making sure the system area is not where snow is plowed off the driveway. Any additional water over or around the system can negatively affect long-term performance.

While walking over the system after installation, each component should be discussed. Address how it is supposed to operate and the role each component plays in protecting human health and the environment. Explain what is required to maintain each component. Discuss the service provider's role in the maintenance plan. An example is to explain how the septic tank functions to hold back scum and solids to protect the soil treatment area and that the tank must be periodically cleaned for proper performance.

## SHOW AND TELL

Specific attention should be paid to the effluent screen. There should be a high-water alarm in the tank to indicate when the screen is plugged. The homeowner should be clear about the need to pump the tank and clean the screen. We would recommend discouraging homeowners from trying to clean the screen on their own. Leave it to the professionals. Any other system alarms, such as in the pump tank, should be discussed from the perspective of what to do — call the service provider or, better yet, set up a regular maintenance schedule to hopefully catch potential issues before they become a problem.

Go through how the final soil dispersal and treatment part of the system works, including how effluent is treated in the soil before being discharged to the environment. Open and look at the inspection pipes for the various components. Explain how they can be cut to grade when finished; offer to make that part of your service.

Emphasize there should be no vehicle traffic over the system. This includes all-terrain vehicles, cars, snowmobiles, and even bicycle and foot

traffic. The treatment area should not be viewed as a playground. Discuss how they can keep the area protected in the winter to avoid potential freezing problems.

Highlight during the walk-through that how they use water can determine the success or failure of the system. Make sure they understand additional water from leaky fixtures, letting the water run while brushing teeth or excessive showers can contribute to problems. Discuss with them your thoughts on ways they can prevent or avoid excessive water use. An example is recommending they avoid doing all the clothes washing for the week on a single day, but instead spreading the usage out over the week.

Make sure homeowners know any future changes to their situation — extra family members or adding water-using devices such as a garbage disposal or water softener — should trigger an evaluation of their system to see if it will handle the additional load.

## COMMUNICATION IS KEY

We could continue to highlight other items that should be discussed with the homeowner; but the point is that there needs to be a lot of communication. One of the chief homeowner complaints we hear is: "I did not know this was important. Nobody told me, and my installer merely came one day, put the system in and left." Do not be that installer! □

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# Long Islanders Seek IRS Clarification Over Income Tax Liability for Septic System Replacement Grants

By David Steinkraus

Suffolk County, New York, has been a model for tackling nitrogen pollution from onsite wastewater systems. Now, local grants to upgrade treatment systems are producing another consequence for homeowners: larger tax bills.

The county occupies the eastern tip of Long Island and is home to the wealthy communities known commonly as the Hamptons. Wastewater treatment at many county homes depend on cesspools. During the last couple of years, the county has been offering grants to replace cesspools with nitrogen-reducing systems. At the same time, the county and several municipalities passed laws requiring low-nitrogen systems for new construction and building expansions.

As tax season approached, homeowners received 1099 forms telling them they have additional tax liability this year because they received thousands of dollars in grant payments.

"I said that's ridiculous," Dorothy Minnick, 69, tells the *Newsday* newspaper. "I didn't make that income. I'm being penalized for doing something good for the environment."

Tim Sheehan, who lives on Shelter Island, on the north side of Long Island, says he could face a tax bill \$3,000 larger. "We were told from the outset the county grant would not be taxable income for us as homeowners."

The tax anxiety can be traced to County Comptroller John Kennedy, whose office mailed the required IRS forms to taxpayers.

By early spring, 69 advanced systems have been installed in the county at an average cost of \$20,523. The county capped its initial grants at \$10,000, and some municipalities offer thousands more in grant money to help cover more of the cost. More than 1,500 people have applied for grants.

A legal opinion from the county's tax counsel says homeowners should not be liable for additional tax if they received a grant. That opinion cited two IRS cases about business grants. An opinion from the county attorney's office says homeowners would not face tax consequences if grant money was paid directly to installers. Anthony Basile, associate professor of accounting and taxation at Hofstra University and a practicing CPA, was quoted in news reports as saying the tax form should go to the contractor and not the homeowner.

Arguments about the tax bills are ongoing.

Also on New York's Long Island, the Sag Harbor Village Board has passed a law requiring low-nitrogen onsite systems for all new homes and for existing buildings, including commercial buildings, if their area is expanded by at least 25%. There was no opposition to the proposed law at a public hearing. The law took effect April 1. Also this spring, members of the Westhampton Village Board held initial discussion about a similar law.

The Catskill Watershed Corp. has an \$86 million, 10-year contract with New York City to repair or replace failing septic systems. The contract continues a program that began in 1997. People whose septic systems have failed or are likely to fail are eligible for reimbursements. There is no cap on payments. Under the new contract, wastewater systems for nonprofit organizations and local governments will be included. Small businesses and homes are already covered.

## Michigan

Commissioners in Kalkaska County may eliminate the septic tank inspections now required before a home can be sold. One commissioner in favor of dropping the requirement is Patty Cox, who is also the county liaison to the District Health Department No. 10.

"If you look at it, there are so many exceptions to the rule, and it creates an undue wait to sell their property," she tells television station WWTV in Cadillac. She says she is concerned about the environment but believes individual municipalities should deal with onsite inspections.

The inspection rule dates to 2008, but it does not require inspections in 11 situations such as when a property is not occupied, if a home is new or if the property transfer is between members of the same family.

A public hearing is planned. The county is located in the northwest part of Michigan's Lower Peninsula.

## Montana

After years of evidence that human waste is leaking into Montana lakes, the state Legislature is on the edge of requiring a formal study of the problem. A joint resolution introduced by Sen. Fred Thomas, R-Stevensville, would set up an interim study committee that would have until September 2020 to compare the state's septic system permit system to other states, look at alternative onsite technologies and recommend ways to encourage their use. Research would be reported in 2021.

During a recent presentation, lake scientist Jim Elser said wastewater treatment improvements and other actions have helped reduce phosphorus levels in Flathead Lake in the northwestern part of the state, according to the *Billings Gazette* newspaper.

## Minnesota

Polk County has a cost-sharing program available to property owners who have failing septic systems or systems violating county codes. County grants will pay 75% to 90% of repair costs up to a maximum of \$12,000. Who receives these grants will be based on household income, condition

of the existing system and its proximity to critical surface waters.

## Missouri

Taney County continues a free pumpout program in 2019. This is the sixth year for the program that provides free pumpouts to homeowners. To qualify, homeowners must have a septic system attached to a single-family residence, cannot have a tank that is part of a centralized wastewater system and cannot have had a free pumpout in the last four years. The program is paid for by the county's 0.5% Wastewater Capital Improvement Sales Tax and each year serves about 500 properties. Less than 1% of the annual tax revenue is needed to fund the service.

## Idaho

A study by the state Department of Environmental Quality concludes leaking septic tanks are causing part of the water-quality problem in Lindsay Creek on the eastern side of the city of Lewiston and a tributary to the Clearwater and Snake rivers. The department plans to start a watershed advisory group.

To find the presence of septic system leakage, researchers looked at the amounts of caffeine and artificial sweeteners in water. Caffeine can be removed by properly functioning septic systems, but the sweeteners acesulfame and Splenda are not. Because sweeteners are used only in products intended for human consumption, their presence means some of the water tested came from human sources.

There are more than 800 septic tanks in the Lindsay Creek watershed. □

"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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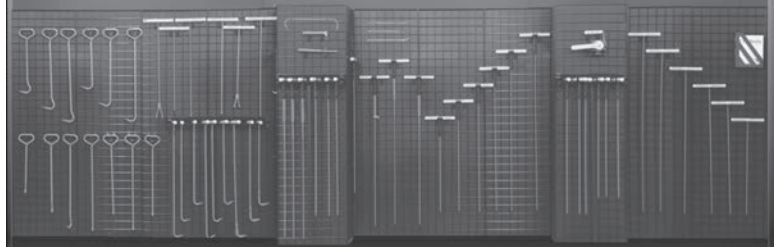
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# Alarms, Controls and Monitoring Systems

By Craig Mandli

## ALARM SYSTEMS/COMPONENTS

### Alderon Industries Versa'larm I/O

The Versa'larm I/O from Alderon Industries is a versatile option for indoor and outdoor utility monitoring. The alarm can be used for a variety of applications, including septic tanks, sump pits, holding tanks, pump chambers and water tanks. Various types of sensors can be connected for liquid level monitoring. The smoked lens on the enclosure has green LEDs to indicate power is applied, and during an alarm, the buzzer and flashing alarm LEDs will activate. Pressing the test/silence push-button will silence the alarm as alarm LEDs turn to a solid state. After the alarm is cleared, the system automatically resets itself. The test/silence push-button can also be used for weekly testing. A set of auxiliary contacts allows the alarm to interface with an external device, available in 120- or 230-volt AC models. 218-483-3034; [www.alderonind.com](http://www.alderonind.com).



### Anua i/o.site

The i/o.site system from Anua provides performance monitoring of electromechanical components while keeping everyone connected to information through a simple web interface. It can remotely monitor any blower, aerator, pump, float switch or motor. It tracks water use, catches motor issues before failure, uses any mobile device or computer, and monitors any powered onsite system. 336-547-9338; [www.anuainternational.com](http://www.anuainternational.com).

### Franklin Electric FPS PowerSewer System

The FPS PowerSewer System from Franklin Electric is a flexible, service-friendly and efficient system for residential and commercial applications. The low-pressure sewer system is available in 60-, 72-, 84- and 96-inch basin sizes, and it pumps wastewater to a collection or treatment area, making it an alternative to gravity sewer systems and septic tanks. The basin's internal C-channel assembly releases from the top of the unit, simplifying accessibility to and maintenance of its components. The tank design provides for easy access and replacement of internal components. The float tree is spring loaded and easily removable, with a lift handle for pump removal. It has an isolated pump support to accommodate heavier pumps for



expanded applications. This provides added installation flexibility through compatibility with the entire line of Franklin Electric FPS 2 hp grinder pumps, providing a maximum shut-off head of up to 200 feet, with a maximum flow of 35 gpm. 260-824-2900; [www.franklinengineered.com](http://www.franklinengineered.com).



### Polylok 3014AB Filter Alarm (Smart Alarm)

The 3014AB Filter Alarm (Smart Alarm) from Polylok is a wired indoor/outdoor filter alarm that provides audio/visual warning notifying home or business owners that a tank filter needs cleaning. The Smart Alarm Switch activates when the filter cartridge is near capacity (approximately 90% full) with solids. The Smart Alarm Switch installed in the filter sends a signal to the panel, activating the audible and visual alarm. It offers a manual alarm test switch and horn silence, an alarm horn rated to 82 dB at 10 feet, and 15 feet of cable, with longer lengths available. 888-765-9565; [www.polylok.com](http://www.polylok.com).

### SJE-Rhombus Xpert Alert Wi-Fi

The Xpert Alert Wi-Fi indoor alarm system from SJE-Rhombus helps protect a home from costly damage due to flooding, pump failure or freezing pipes. The system monitors and reports any residential alarm condition by notifying locally (audible and visual alarms) and remotely via SMS text messages and/or emails. It uses an existing Wi-Fi or Ethernet network to send messages, meaning there are no monthly fees or contracts. The sleek design incorporates an LED alarm light ring that illuminates red for alarm 1 and amber for alarm 2. The red low-temperature indicator activates at 40 degrees F to alert of potential freezing conditions, but it can be deactivated for cold climates. It is CSA certified. 888-342-5753; [www.sjerrhombus.com](http://www.sjerrhombus.com).



### Sump Alarm Wi-Fi version outdoor tank alarm

The Wi-Fi version outdoor tank alarm from Sump Alarm provides email, text and voice notifications for up to five numbers. The unit can call installers when a client's tank is full. The weatherproof high-tank alarm requires no on-site wiring and includes a 90 dB horn and 1-inch LED indicator. Versions are available for high- and low-level detection and available in 120 or 220 volts. It joins the household's Wi-Fi network. It is preassembled and suitable for extreme temperatures. 314-787-8059; [www.sumpalarm.com](http://www.sumpalarm.com).



## PUMP CONTROL PANELS

### Aquaworx by Infiltrator Intelligent Pump Control Panel

The IPC Panel from Aquaworx by Infiltrator leverages simple pressure transducer technology to provide an innovative approach to enhance pump system performance. Easy to install, it is powered by an embedded microprocessor in the pump controller and a floatless pressure transducer in the pump chamber. It monitors liquid levels, controls pumping time intervals, logs events in real time and calculates daily system flow. It stores up to 4,000 events in a date/time-stamped event log. The Mountable and Removable Controller hand-held user interface is designed to program the unit. The MARC unit can be removed for use on multiple panels, offering a cost-effective solution with expanded capability. 800-221-4436; [www.infiltratorwater.com](http://www.infiltratorwater.com).



### Delta Treatment Systems CP20/40/50 Series

CP20/40/50 Series control panels from Delta Treatment Systems provide intelligent monitoring and alarm functions for residential, commercial and industrial wastewater treatment systems. They are easy to install and operate and are available in several models engineered for use with advanced wastewater treatment systems and custom packaged plants. Customized control panels are also available, and all panels can be supplied with UL and/or Canadian UL 508A listings upon request. They monitor air pumps and effluent pumps on the Delta Whitewater treatment system. Additional options include the Series CP22, which monitors the air blower on Delta ECOPOD systems with options for controlling and monitoring UV lights for disinfection after treatment. Series CP8000/9000 control the Delta ECO-DRIP Pre-Engineered Disposal Systems' headworks filter system and effluent dosing pump using a programmable logic controller for time-dosing drip disposal fields. 800-219-9183; [www.deltatreatment.com](http://www.deltatreatment.com).



### Orenco Systems 4-in-1 Controller

The 4-in-1 Controller from Orenco Systems supports numerous electrical configurations and dosing schedules within a single panel. Both Simplex (MVP-S2DM) and Duplex (MVP-DAX2DM) models are available and can be configured in the field for timed or demand dosing. While the control circuit operates on 120-volt power, the pump circuit is dual-rated for both 120- or 240-volt power, meaning installers and service providers can reduce their panel inventories for new installations and repairs. It includes a programmable logic unit with multiple timing intervals for changing flow conditions, and a built-in elapsed-time meter and counter. It also displays float position and has a float error indicator. Each panel includes a reference chart to assist with troubleshooting during installation and testing, as well as wiring diagrams. It is completely touch-safe. 877-257-8712; [www.orenco.com](http://www.orenco.com).



### Septic Products 50B019-120-240DD

The 50B019-120-240DD control panel from Septic Products is a duplex time-dosing panel for use in residential or commercial applications. It can be used with 120- or 240-volt incoming power, and it accommodates two dosing pumps controlled by a repeat cycle timer. It has a durable, weather-resistant, NEMA 4X polycarbonate enclosure with SST latches; large, easy-to-access terminal block; circuit breakers for the pumps and control circuits; a rugged, externally mounted, UV-resistant alarm light; audible alarm and run-mute-test switch with UV-resistant sealing boot; definite purpose motor contactors; alternating relay; and pump hand-off-auto switches. Compressor hookups are available. Wiring schematic and detailed connection diagrams are provided, as well as mounting feet for the enclosure. It is UL listed. 419-282-5933; [www.septicproducts.com](http://www.septicproducts.com). □

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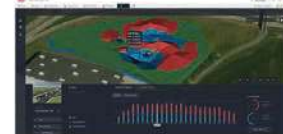
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## PRODUCT NEWS

### Leica Geosystems MC1 software for excavators

The Leica Geosystems MC1 software for excavators from Leica

Geosystems uses quick accesses and smart navigation to keep the operator in the run screen and assure longer uptime. This one-for-all software infinitely connects heavy machinery on site, providing guidance and automation for operations across construction projects. The latest version of the software enables tool recognition for excavators — the automatic detection of any construction tool connected to the excavator. This decreases the chance of using improper buckets that could cause overdigging, increasing efficiency and productivity for operators. 800-367-9453; [www.leica-geosystems.com](http://www.leica-geosystems.com).



### John Deere construction simulators



The new construction simulators from John Deere outfit to one of six machine types: backhoe, crawler dozer, excavator, wheel loader, joystick-controlled motor grader and fingertip control motor grader. Based on actual John Deere equipment, the simulators feature swappable controls that allow for quick interchange of joysticks and foot pedals to multiple machine types. The software offers highly

detailed, realistic virtual environments designed to cover basic and advanced operator duties through multiple job site tasks. A performance function provides metrics to measure student progress to help build proficiency and confidence. 800-503-3373; [www.johndeere.com](http://www.johndeere.com).

### Reelcraft Industries Series 3000 ultracompact reels



Reelcraft Industries Series 3000 reels are all-steel construction and ultracompact for a wide range of bench-mount or mobile applications with critical space requirements. These compact reels fit in a 1-by-1-foot space. The reels incorporate multiple slotted mounting holes to accommodate many configurations. An optional guide arm accessory is available for multiple adjust-

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### CSI Controls CSION indoor alarm system



The CSION indoor alarm system from CSI Controls features a modern design and easy installation. The alarm helps protect homes from potentially costly damage due to flooding, pump failure or freezing pipes. The alarm incorporates an LED alarm light ring that illuminates red for alarm one and amber for alarm two. Two sensor inputs allow for flexibility to choose which separate liquid level conditions to monitor. The CSION also monitors low

temperature conditions. When the temperature drops below 40 degrees F, the low temperature indicator LED turns from green to red and the alarm sounds. This function can be disabled in cold climates. 888-342-5753; [www.sjeinc.com](http://www.sjeinc.com). □

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## INDUSTRY NEWS

### Franklin Electric names new managers

Franklin Electric named new managers. Chris Downey is territory manager for the north-central region. Downey oversees distribution and sales for Franklin Electric's Pioneer Pump and FPS brand products throughout the U.S. sales territory of Colorado, Kansas, Missouri, Nebraska, Iowa, North Dakota, South Dakota, Minnesota and Wisconsin, along with the Canadian sales territory of Manitoba.



Chris Downey



Shane Wright

Shane Wright is territory manager for the southeast region. Wright oversees distribution and sales for Franklin Electric's Pioneer Pump and FPS brand products throughout Mississippi, Alabama, Tennessee, Virginia, North Carolina, South Carolina, Georgia and Florida.

### OneWater announces first Algaewheel system in Iowa

OneWater announced the award of its first project in Iowa. The project at the West Lake Park Wastewater Treatment Plant includes installation of a 10,000-gpd average dry-weather flow Algaewheel wastewater treatment plant. The Algaewheel process uses daylight for energy and optimizes the mutually symbiotic relationship between algae and bacteria for a low-energy treatment system. The new plant replaces an activated sludge facility.

### Infiltrator Water Technologies purchases Presby Environmental Inc. (PEI)

Infiltrator Water Technologies announced the purchase of Presby Environmental Inc. (PEI). Presby Environmental manufactures the Enviro-Septic, Advanced Enviro-Septic, EnviroFin and other wastewater treatment technologies.

"We are excited to be able to expand our products with the proven Presby Environmental product line. The family of Presby Environmental products complements Infiltrator's core business and helps to strengthen our industry leadership position. The combination of Infiltrator and Presby Environmental supports our vision to reimagine and revolutionize onsite water management," says Roy E. Moore Jr., president and CEO of Infiltrator Water Technologies. □



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Size: 21.25 x 13.75 x 14.25  
Capacity: 30 cans no ice



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### 35 Quart Cooler

Size: 22.5 x 16.25 x 16.25  
Capacity: 48 cans no ice



Shown in Sand

### 45 Quart Cooler

Size: 27 x 16 x 16.25  
Capacity: 64 cans no ice



Shown in Sky

### 60 Quart Cooler

Size: 28.5 x 18.375 x 18  
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Size: 34.25 x 18.375 x 18  
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Pennsylvania Association of  
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Pennsylvania Onsite Wastewater  
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Wisconsin Liquid Waste  
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Water Environment Federation;  
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National Association of  
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Ontario Onsite  
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