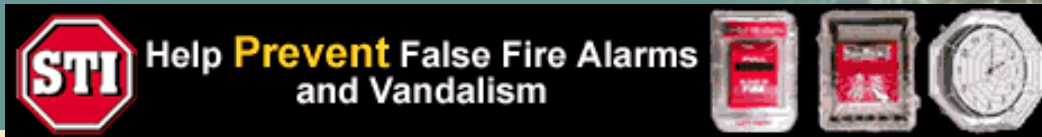


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MAINTENANCE

DRAIN CLEANING Clearing the Clog

What problem do schools, universities, homes, offices, and hospitals all eventually have in common? While there may be quite a few, one of the most problematic similarities they all share is clogged-up drains. And when it comes to clogged drain problems, another thing they share in common is that there often is no rhyme or reason to the problem. One facility may have a perfectly sound drain system with proper fall and quality plumbing that rarely needs a plumber's care, while a comparable drain in another facility, or the same facility for that matter, may experience one problem after another.



While some steps can be taken to prevent drain clogs, many are inevitable. So when they do happen, it is important that school and hospital facility managers know how to deal with them quickly.

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And just to complicate things further, one branch of a facility's plumbing system may overflow sooner than another one. Yet, both are tied together and the clog is downstream of their connection. To help identify and explain these problems, some engineers turn to the Reynolds Number Calculator which helps calculate flow rates, pressure and other variables in a pipe system. However, while this system helps in plumbing planning and design considerations, it does not necessarily provide solutions to drain problems or predict why one drain stays open and another experiences stoppages regularly.

Because of this, facility managers must use a lot of common sense when it comes to preventing clogs and know what steps they can take to deal with them when they occur. The more knowledge the astute manager has, the more likely the facility's drains will stay functioning properly for longer periods of time, preventing that dreaded 3 a.m. call to the manager that a drain has backed up and a restroom floor is soaking in overflow.

Clogging Causes

Drain clogs in schools and hospitals are often caused by such things as caked grease in drain pipes and toilet paper, paper towels, diapers, feminine hygiene products and even softballs (yes, softballs) tossed down toilets.

"Grease buildup in drains is one of the major causes of clogs," says Marty Silverman, vice president of marketing for General Pipes, a 75-year-old manufacturer of pipe cleaning equipment based in McKees Rocks, PA. "And this can often be prevented if people would just let water run down the drain a bit longer, pushing the grease farther down the line."

But it is believed feminine hygiene products are single-handedly responsible for more clogged drains and sewers than any other single item. Even those that are marked as "flushable" may cause stoppages and drainage problems.

And when it comes to stopped-up toilets, it could be the toilet itself. According to Silverman, some of the early low-flow toilets had serious clogging problems because of insufficient flow rates. By making a simple design change—glazing the interior drain area—the surface has been made smoother and waste drains more easily, essentially rectifying this problem. For facilities that still have some of the early low-flow toilets, first introduced about 10 years ago, it may be well worth the savings in plumber's bills and problems to replace them with newer models.

But the bottom line about clogs is this: In most cases, a line starts with a partial blockage, like a boulder blocking the flow of a stream. In time, solids and waste gather around the blockage causing it to grow and eventually resulting in a stoppage.

Rachel West
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DRAIN ODORS

Almost as problematic as drain clogs are drain odors. And these can occur in new as well as old buildings.

For instance, a few months after the Antelope Valley Courthouse opened in 2004 in Lancaster, CA, it was forced to close twice due to a stench permeating the entire four-story structure of 382,000 gross square feet. This meant the facility's 21 courtrooms, Sheriff's Department, District Attorney's Offices, Public Defender's Offices, Probation Department, and Jury Services all had to shut down until the foul odor lifted.

Managers looked high and low for the cause of the odor, which they eventually discovered was emanating from some of the building's floor drains. "Typically, this odor problem is averted because water remains in the drain trap section of the drain, trapping odors and preventing them from passing through," says Klaus Reichardt, managing partner of Waterless Company LLC. "However, because [in this case] the water in the pipes had evaporated [because no water or not enough water had gone down the floor drain to keep it filled], sewer gases were released into the facility. In fact, describing the problem, one of the building occupants said, 'Ever been in a Port-a-Potty? It smelled just like that,' which tells you why the building was shut down."

Reichardt indicates there are ways to prevent this problem. One of the most common is to pour some water down floor drains about once per week. "Some facilities pour bleach down the drains, but this is of little benefit and can be harmful to septic tanks as well as the environment," he says.

Another option, which helps minimize if not eliminate the problem, is to use "priming liquids" specially designed to keep the traps in floor drains and other plumbing fixtures full so they never run dry. According to Reichardt, "Instead of pouring water down the drains every week, usually just adding a few ounces of these priming liquids in each drain can eradicate these odor problems entirely."

This will eventually affect other plumbing lines in the facility as well, slowing their flow and causing more clogging problems throughout the facility.

Clogging Treatments

In some ways, the process and technologies used to unclog pipes have changed very little in the past 75 years. In other ways, they have changed dramatically.

In 1933, Samuel Blanc developed a Roto-Rooter machine, a system which is still used extensively today. This is the original “snake” cable system that winds its way down a pipe, loosens obstructions and then with the help of pressure buildup in the pipes, forces the clog down the drain thus freeing the pipe line.

However, Silverman says that some facilities, especially medical ones may want to use a more sanitary system to remove drain obstructions. For instance, his company manufactures compressed air systems that create a “shock wave” through the water to break up a stoppage. “This is a whole lot cleaner and more sanitary than bringing in a snake and it can be used in many different types of drains,” says Silverman. “Technicians often use them to unclog showers, floor drains, and bathtubs.”

In addition to snakes and compressed air systems, a less sophisticated but helpful stoppage remover is the closet auger. Similar to a Roto-Rooter system, the auger looks more like a fishing rod. This system has springs coiled over a wire rope core that can wind its way down a drain. “Augers are very flexible and can travel through sharply angled passages,” explains Silverman. “At the same time, they are more protective of the inner walls of pipes than a rooter and are less likely to chip or break them.”

Drain Cleaning Equipment

Many facilities must determine what plumbing issues they can tackle themselves and when it is time to call in a plumber. Not only is there the cost factor to consider, but many times a plumber is involved in another job and cannot take care of your plumbing problem for several hours, maybe even a couple of days. And as managers know, the longer a drain problem exists, the more harm it can cause.

For schools and hospitals, it is often a good idea to purchase some basic drain cleaning equipment. According to Mark Speranza, vice president of sales for Electric Eel Manufacturing, most of these tools are relatively easy to use and care for. He advises in-house users to always wear leather gloves and goggles to protect their hands and eyes and to keep all safety manuals that come with the equipment.

“Once they get more experienced with using some of the smaller drain cleaning equipment, they can select larger and more sophisticated drain cleaning tools,” he says. “Then they can tackle more of their own [drain cleaning] problems when they need attention without the expense of an outside plumbing service.”

The drain cleaning items Speranza suggests facilities purchase include:

- A 3-foot toilet auger
- A 25-foot manual handheld snake drain cleaner
- A 50-foot snake for larger drain lines
- A mainline machine, which is an even larger snake that will clean drain lines as long as 100 feet and as many as 10 inches wide
- A high-pressure water or compressed air machine

He also advises plumbing tools be well cared for to ensure their longevity and their readiness in an emergency. This includes cleaning the equipment after each use, which may call for a pressure washer to rinse away soil and grime and then lubricating the cables with a spray-on oil treatment. Keeping the cables lubricated prevents rust from developing.

While some steps can be taken to prevent drain clogs, many are inevitable. So when they do happen, it is important that managers know how to deal with them quickly. They need to be ready, whether this means having the proper equipment to unclog the drain themselves or knowing when to call in a professional to remedy the problem.

Dawn Shoemaker is a writer with the professional cleaning industry and may be reached at info@alturasolutions.com.

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