

Septic System Maintenance

This report comes to you as result of the recent professional evaluation of the lake, and the determination that septic systems are partially responsible for the high nutrient load feeding the weed and algae colonies. This also comes as a service to you, your neighbors, and the community in general. As a big city boy most of my life, I had absolutely no knowledge of septic systems when I came to this community in 1998. As a homeowner who likes to keep everything properly maintained, I was not comfortable with a system so important, yet could not see. So I set out to learn everything I could about septic systems. I am certainly not an expert, but everything I tell you can be easily verified by an expert. I try to gather information from people or institutions that have nothing to sell; so much of it comes from the University of Minnesota, Purdue University, and Michigan State Cooperative Extension Services.

If your system is out of sight out of mind and you practice flush and forget it, this will cost you big bucks sooner rather than later. Our neighbors to the east recently turned down an opportunity to get on the municipal sewer system. I can't speak to the funding issue, but I read a number of accounts that residents felt their systems were working just fine and that they didn't need this. If that is so, then in my opinion, that attitude is very short sighted. As you read this, their systems are failing, and the pay later rather than the pay now option will be considerably more costly. In the words of a local septic contractor, a septic system begins to fail the day it is installed. To be sure, a properly designed, properly installed, and properly maintained septic system is the most efficient method of treating household waste. The reality is that those three practices just don't happen. Septic tanks don't fail. Drain fields do. Even properly maintained drain fields will fail. So this is not a question of if, but when. The good news is that you can dramatically extend the life of your system with proper maintenance and knowledge of certain lifestyle practices. I've heard residents say that because we are a relatively young community, we don't have to worry about this for some time. Well that assumption is wrong. Fifteen to twenty years is prime failure time for poorly maintained systems. They do take a lot of abuse to be sure, but it's a gradual sneaky thing and by the time you realize you have a problem, it is serious.

The single best thing that you can do is to have your tank pumped out on regular basis. All of my references are unanimous in agreement that you should spend your money on pump out and not additives. Additives are a waste of your money and don't do anything for your system. The telephone hawks claim that because our society uses more caustic cleaners, bleach, etc., that you need this to replace the bacteria that the products are killing. Well guess what. The products kill the additive bacteria also. What you are allowed to accumulate, your tank has less room to do its job, resulting in solids being forced out into the drain field before breaking down, thereby plugging up the drain tiles. The enzyme additives don't do anything for this buildup. Some companies are now stating that their new and improved product breaks these solids down.

From the University of Minnesota Extension comes this statement: "Additives effective in removing solids will probably damage the soil treatment system. Many additives suspend the solids that would normally float to the top or settle to the bottom of the tank. This allows them to be flushed into the soil treatment system, where they clog pipes and soil pores leading to a partial or complete failure of the system. There's no such thing as a safe AND effective septic system additive."

Another good reason to pump out is to get an inspection. The driver can tell you how much sludge is on the bottom of your tank for future pump out reference. They also look for run back from the drain field when the tank is empty. No run back does not mean there are not problems in your drain field but run back is your first good clue that there is a problem. Very important to any inspection is determining that the baffle is in place. This holds back the floating solids, and if missing, allows them to go straight to the drain field where they can clog. I can tell you from experience that there is a problem locally. Upon our move in, the hose inspector found the baffle was missing. My tank was made by Wymer, located a few short miles away on 31. The inspector stated that fully 90% of the baffle failures he sees are in Wymer tanks. The baffle is a slab of concrete stretched across the top of the tank held up by a protruding ear on each side. The ears had broken off and the baffle was sitting useless on the bottom of the tank. Because of Wymer's close proximity to our community, there may well be a large number of their tanks in us here. The state has since forced a change of their building practices but that doesn't help us. You could very well have one of these in your yard. The fix was simple adding a new 4-inch pvc elbow, but without an inspection, you would not know this. So pump 'em out folks. How often? This is one of the big variables. There are guidelines out there for 1-2 people, 3-4 and so on. Basically it depends on your water usage and sludge depth. If you ask the driver for sludge depth info, you can, after a few pump outs determine your rate of build up. This may be overkill, but with a two person family, I pump mine every two years. Like changing the oil in your car, too often is never a mistake and gives me piece of mind. While pumping and the accompanying inspection are important, it is still a limited inspection. They cannot tell you what is going on in your drain field. For this reason, I am going to use an engineering company in South Bend for my pump out in June, because they can give my drain field a good inspection. I will give you more information on this event when it happens.

The next biggie is water usage. If you think about this, there are a lot of ways that you could use less water, thereby helping your system. I know that we all enjoy our unlimited and unmetered water privilege in this community, but it works against us in two ways. It can increase our pumping costs and does put extra wear and tear on the pump system, but it also does nothing for water conservation, which is detrimental to all of our septic systems. Even if you did everything else right with your SS, you can kill it by overloading it with too much water and forcing solids into your drain field. Water saving fixture and appliances can have a huge impact on water use. Toilets are major water users and wasters if you are still using older 5 gallons per flush models. Federal law mandates that no one can sell you a toilet that uses more than 1.6 gallons. The knock on these initially was that they didn't work well, sometimes requiring 2 & 3 flushes, thereby negating any savings, but there have been big improvements. However, I understand that there are still some out there that don't work well, so stick with the name brands. I just installed 3 Kohlers in my house this year and am very happy with them.

Your washing machine is another potential disaster. Older machines use as much as 50 gallons of water just to do one load of clothes. The modern front loading machines are worlds apart from the water hogs, cutting water usage by as much as 2/3. Early models had smaller capacities and limited features, but like everything else, they have also improved greatly. Capacities are now the biggest and new features allow you to do everything you could do with your old machine and much more. Another big plus is that your clothes last much longer, as they are tumbled and not beat to death by an agitator. Yes, I know that they are expensive but there is a pay back. You can do more clothes in one load, using less detergent, less hot water, and the spin cycle is so efficient that the drying time is cut way

low saving big time on electricity. Alas, I haven't been able to convince Cyndi as yet, that we really need a thousand dollar washing machine. But when replacement time come, there will be a front loader in our basement, because that is the future. Dishwashers can be another water hog. If you are shopping for a new one, look at the water use numbers. Modern machines are generally more water and energy efficient, but there can still be a big difference between brands. Check out the numbers. The same thing applies to water softeners. There can be big differences between brands for regeneration water usage. One other thing you should know about water softeners is that regeneration waste water does not need to go through you SS. It is also best to keep it out from the important reason that the salts can bind with certain clay soils to seal off the pores in the soil thereby reducing or halting percolation. What to do with it? Well you don't want to dump it on the ground as the salt will do a number on your grass and landscaping. The best way is to install a drywell into which this can flow along with air conditioner and heating condensate. But it will not handle the washing machine. You can find plans for this, which the owner calls a mini septic system, at septicprotector.com. This is on my drawing board also. Fix all leaky faucets. Use low flow showerheads and aerators. Try to keep from having big surges in water use. Spread out your laundry to a load a day rather than doing it all on your day off. Parties with a lot of guests are always a problem. Jim Vonmeir, the owner at septicprotector.com rents Joys Johns when he has a big load of company. You said what? Yes that's right. He is serious and does do that. I am certainly not advocating that. No way will I send my guests out in the cold, or any other time for that matter. But guests should be advised that you have a septic system, and not to dispose of anything in the toilet that can be disposed in some other way. The key is to not only reduce your water usage, but spread it out more evenly.

The next biggie is what you put down your drains. The rule is to put nothing into drains or toilets that can be disposed in some other way. It seems to be a no brainer to me, but contractors are called all the time to unplug systems full of wet wipes, sanitary napkins and other items that do not break down. A filter on your washing machine drain line is also a very good idea and is recommended by the University of Minnesota. Many of today's clothes are synthetics, polyesters, nylon, etc. These do not break down. Lint particles are so small and light that they are suspended and washed out in the drain field where they help to limit draining. You see the lint captured by your dryer lint screen. What you don't see is the lint that is flushed out in the final rinse. I have one of these filters and clean out a tennis ball size gob of lint every two weeks. And that is with just a two person family. This can be purchased at septicprotector.com.

Anti bacterial products are widely promoted these days. Hand soap for instance is very common and it is sometimes hard to find regular soap. The value of this is questionable to begin with, and it contributes to the good bacteria killing field in your tank. Tile and toilet cleaners also do this. Avoid "every flush" toilet bowl disinfectants. They may do a good job of killing bad bugs in your bathroom but they also do a very good job of killing the beneficial bugs in your tank. Bleach and anything with bleach in it as a killer. One half cup of bleach can wipe out a thousand gallon tank in a heartbeat. The bottom line is to carefully monitor your use of harsh cleaners and use sparingly whenever possible. Don't flush cigarette butts or unwanted prescriptions, especially antibiotics down the toilet. Another killer. Use liquid instead of powdered laundry detergents. Powders add fine particles to the sludge accumulation. The same would apply to dishwasher soaps. Dispose of all solvents, paints, antifreeze, and chemicals through local hazardous waste channels. Here's one I just learned not long ago. Do not let wash water from latex paint on brushes or rollers go down

the drain. If you wash these out in a bucket, you will see that the solids settle out to the bottom. It does the same thing in your septic tank. Plus the Chemical makeup of the paint kills bacteria in your tank. Do not use a garbage disposal. Contractors estimate that disposal use can account for up to 50% of the solids on the bottom of your tank. I did install one in my house, but I strain every possible thing out first, and only use the disposer as a backup to chop up the little bit that gets through.

All systems will benefit from a rest. The good news is that even the most abused system can be restored with a year's rest. The bad news is that none of us has a year to wait for that to happen. If you have your original septic permit, you will see that the location for a replacement drain field has been designated. If I were to build a new house today, I would put in both drain fields with a distribution box using one side for a year then changing to the other. I don't see many built this way but theoretically the system could last forever. But any rest you can give your system is beneficial. Pick your time for pump out. If you do this just before leaving for vacation for instance, you can hedge just a little more rest for your system. Another idea is to pump out just before entertaining a mob of guests. Take maximum advantage of the pump out process.

Miscellaneous—make sure roof drains and all natural drainage is routed away from your drain field. Never drive over your drain field with a car or heavy equipment.

Do I practice everything I have written about in this report? Of course not, but I do make the effort and am constantly looking for better ways to do everything. Remember that we are talking big bucks here folks for drain field replacement. Thousands of dollars to say nothing of the accompanying mess. I hope that you have picked up a tip or two in this report. If you were a flush and forget it person, I hope I have generated some interest in this for you. Remember that if you help yourself, you also help your neighbors and the community.

John Harville