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Testers to flush out tank issues

Inspections of 1,000 septic tanks kick off

Caitriona Murphy

SOME 1,000 residential septic tanks are to be inspected by the Environmental Protection Agency (EPA) between now and July 2014 under new waste water treatment rules.

The inspections will account for less than 1pc of the 446,000 septic tanks registered with the Department of the Environment by the deadline last February.

Although your chances of being selected for an inspection are quite small, it is important to understand what the inspection will entail and how to deal with any potential problems.

Owners of septic tanks selected for inspection will be notified by an inspector 10 days in advance of the inspection.

Specially trained local authority inspectors will carry identification and will check that your existing treatment system is fit for purpose and does not pose a risk to public health or the environment.

The inspection is aimed at ensuring that your septic tank meets the criteria set out in several rules, including the Water Services Act 2012 and the Water Services Acts 2007.

The inspector will check:

1. Whether the system is registered;
2. If it is leaking;
3. If the system components are in working order;
4. If effluent is ponding on the surface of the ground;
5. If it is discharging direct to surface water without a licence;
6. If rainwater or clean surface water is entering the system;
7. Whether the system is being properly operated and maintained;
8. If the system has been de-sludged;
9. If the system is being managed in a way that does not adversely affect the environment.

During the inspection, the inspector will fill out a form that will include details about the septic tank site, the surrounding buildings and area, and any evidence that the septic tank is posing a health risk. The inspector might take photos as part of the inspection.

The official will also give the septic tank owner some basic information on managing septic tank systems and why it is important to manage the system to prevent water contamination and protect human health.

Following the inspection, the owner will be notified of the inspector's findings within 21 days.

If the official has found that your septic tank system is a risk to either public health or the environment, you will be issued with an 'Advisory Notice'.

The advisory notice will state that the septic tank constitutes a risk to human health or the environment and explain the reasons why.

It will direct you to remedy the problems identified with the septic tank during the inspection, but will not tell you exactly what remedial works will be needed.

DEVELOPMENTS: Above is a septic tank that is structurally sound but the surrounding soil is tightly packed and contains no gravelly material at all so there is limited soakage. After 10-12 years, the percolation area failed. The solution from O'Reilly Oakstown Environmental was to add a new tank, right, to allow further processing of the waste and boost the efficiency of the system from 30pc with the first tank to 97-98pc in the new system

ADVICE

According to the EPA, this is because each case is site-specific and the owners of problem septic tanks should seek expert technical advice to address the issue.

Once the remedial work has been completed, the householder can have their system re-inspected for a fee of €20.

After this, the advisory notice may be confirmed, amended or cancelled, depending on the result.

What if my septic tank fails the inspection?

IF YOUR septic tank system fails the inspection process, you can apply for a grant of up to €4,000 from the Department of the Environment.

The grant is only available to householders whose septic tanks have failed the EPA inspection and who have received an advisory notice from the EPA.

The grant is available to carry out work to repair or upgrade domestic waste water treatment systems (septic tanks). However, it will not be available to householders who did not register their tank before the February 2013 deadline.

Table 1 shows the level of grants available to householders, depending on their annual income.

Households with an income of up to €50,000 per year will be eligible to apply for a grant of 80pc of approved costs, up to a maximum of €4,000.

Households with incomes between €50,001 and €75,000 per year will be eligible for a grant of 50pc of approved costs, up to a maximum of €2,500.

Your household income is calculated as the property owner's gross taxable income in the previous tax year, together with that of his or her spouse or partner.

For self-employed farmers, a notice of income assessment will be needed with the application, while PAYE employees will need a PAYE balancing statement.

The grant is aimed at covering only capital or once-off costs in upgrading the septic tank and will not cover the costs of maintaining, servicing or de-sludging a tank.

This is because the Department of the Environment has said that these are costs owners should be covering as a matter of course to keep their septic tanks functioning properly.

Application forms for the grant are available from the Department of the Environment website, www.environ.ie.

The application must include all supporting documentation, including evidence of household income, itemised receipts for the work carried out, and a copy of the contractor's tax clearance certificate.

Like previous farm building schemes, your application for grant aid must be accompanied by a receipt from each contractor you employ to upgrade your septic tank.

The receipts must include details of the works carried out and the associated costs.

You must also submit a copy of a current tax clearance certificate for every contractor employed for the job.

Grant applications should be submitted to the local authority covering the area where your septic tank is located and if you need help with completing the form, contact the local authority.

Table 1. Department of the Environment grant levels

Household Income	Costs covered by grant	Maximum grant available
Up to €50,000	80pc	€4,000
€50,001 - €75,000	50pc	€2,500
In excess of €75,000	No grant payable	No grant payable

"The advisory note will state that the septic tank constitutes a risk and explain the reasons why

Watercourses, poor percolation areas and sludge warning over septic tanks

Caitriona Murphy

SEPTIC tanks connected directly to watercourses, inadequate percolation areas and sludge build-up are among the most common problems with septic waste systems in Ireland, according to one leading expert.

Diarmuid O'Reilly of O'Reilly Oakstown Environmental maintained that some older septic tank systems were built with little or no regard for the environment or the health risks to humans.

"I would estimate that 10pc of the 500,000 septic tanks in Ireland had no attention paid to how they would or should work," he said.

"Another 60pc of tanks were reasonably well constructed, but have percolation areas that only last 10-11 years before they give up."

Septic tanks that allow overflow of effluent directly into a drain, stream or river pose the greatest risk to human health.

"In some cases, people have actually dug a drain straight to a ditch with running water because the tank doesn't work," he said.

"Because it never overflows again, they think the septic tank is working. Of course it won't overflow, it's got 30 miles of stream and river before it gets to the sea as a percolation area.

"Some of the older systems we've seen don't show any attempt to create any percolation area, not even a soak hole," he added.

These type of septic tanks are often 25 years old or more, according to the Meath-based expert.

Another common problem is that septic tanks were installed in areas where the soil was unsuitable for percolation.

"You'll often see this with a tank 10-12 years old," said Mr O'Reilly.

"We will get a call from someone who says their septic tank is not working. When we go out, we find that the tank is structurally sound, but the percolation area is not suitable."

In these cases, the soil will be tightly packed and have very little gravelly content, resulting in poor soakage.

"The tank will have percolated fine for a number of years, but then it fails," he explained.

"In a case like that, the upgrade would involve adding a second tank to take effluent from the first tank where the bacteria can further digest the solids. This would increase the efficiency of the system from about 30pc to 97-98pc," he explained.

"County councils pay a lot more attention to the results of the percolation test these days," Mr O'Reilly added.

POSITIVE

In the percolation test, if you get a P result of under five, water can move too quickly through the soil to the groundwater underneath. Typically these soils are gravelly or sandy soils.

If the P result is between five and 20, this is positive and means the soil is a suitable percolation site.

Results between 20 and 50 indicate that some remedial work will be required to make the site suitable, while a P result over 50 does not disperse liquid well and another system will be required.

Householders are also often guilty of not paying attention to desludging their septic tanks, according to Mr O'Reilly.

"You'll often hear someone saying they 'got away with only a septic tank' in the site requirement," he explained.

"Yes, a septic tank is definitely the cheapest option, but that does not mean you can forget about it the minute it goes into the ground," he warned.

Large septic tanks capable of holding four cubic metres of water, attached to a household of two adults and two children, need to be desludged every three years on average.

However, smaller tanks and tanks for houses with more people will need to be tackled more often.

"You'll hear of people who have never desludged their tank in 10, 20 or even 30 years, but as the tank fills up with sludge, it will reach the pipe and spill out into the percolation area and stuffs it up."

To check if your tank needs to be desludged in a single-chamber tank, take a piece of 2x1 timber and push it down through the crust until you feel the resistance of the sludge below.

Mark this level on the timber. Next, push the timber right down to the bottom of the tank and mark this level also.

The tanks should be one third sludge and two thirds water. If the sludge component is higher, the tank needs desludging.

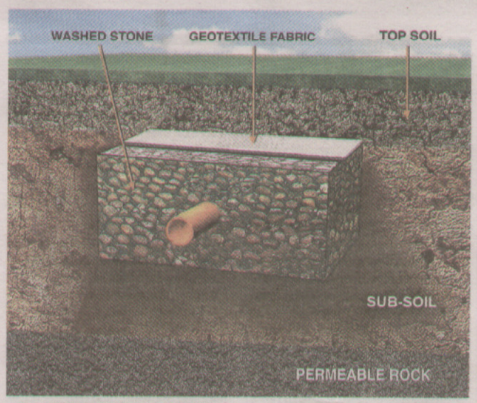
"Most septic tanks systems in Ireland are way too full of sludge and this compromises the ability of the bacteria to digest the material," maintained Mr O'Reilly.

Finally, another common problem with septic tanks is the overuse of biological washing powders and chemicals that kill off the bacteria that are needed to digest the waste in your tank.

"Those chemicals contain enzymes that kill off all bacterial activity, so the active biomass is no longer there to deal with waste.

"You will get a smell from your tank because what you have in it is just raw sewage," he said.

IN THE TRENCHES: Above is the bigger area of the percolation area with 18m long trenches fed from a distribution box. The pipes from this box are 4in/ 100mm perforated pipes that are laid with a slight fall over a bed of stone. The effluent from the tank flows by gravity from the tank as it fills up, firstly through the distribution box and then out through each of the pipes and into the percolation area by way of small 4-6mm holes at the bottom of the pipes



FOR BEST RESULTS: What a proper percolation area should look like for a septic tank

Do I need a tank upgrade?

YOU may not need an EPA inspector to tell you that your septic tank is not working.

Here are eight tell-tale problem signs, outlined by Kildare-based septic tank experts Sepcon Waste Water Services, that are visible even to the untrained eye:

- Blockages in manholes or slowly draining toilets;
- Wet patches in the garden;
- The septic tank requires frequent emptying;
- Storm or roof water entering the sewage system or leaking manholes;
- Wet areas around the septic tank or percolation area;
- The presence of nitrates and bacteria in your drinking water test results;
- The septic tank is connected to a ditch or stream;
- Odours from the septic tank or around the house.

POOR DESIGN: This septic tank is a typical example of a badly designed system that is unfortunately all to commonly found in Ireland, according to Diarmuid O'Reilly of O'Reilly Oakstown Environmental. While the tank appears to be OK, there is an uncovered access point and the percolation area is an open sewer that leads directly to a drain 5m away under the trees. This drain connects to the local stream, river and eventually the sea and highlights the health risk the tank poses

How do I empty a septic tank?

SEPTIC tanks should be pumped when sludge and scum accumulation exceed 30pc of the tank volume or encroach on the inlet and outlet baffle entrances, according to the EPA.

Periodic pumping of septic tanks is recommended to make sure the system works properly and to reduce the risk of hydraulic failure.

Septic tanks should be de-sludged a minimum of once every year, in cases where the septic tank is at, or near, its design load capacity.

De-sludging should take place more often if the rate of sludge build-up requires more frequent removal.

The sludge and scum material found in the tank should be removed by an appropriately permitted contractor in accordance with waste management regulations.

The local authority will have a list of licenced contractors in the area. These contractor will arrange for the disposal of the sludge in line with national legislation.

This is typically disposed of through land spreading on farms or at a wastewater treatment municipal facility.

The contractor should give the householder a certificate each time the tank is de-sludged.

Landspreading of sewage sludge on agricultural land is subject to certain criteria and is part of a nutrient management plan for the land.