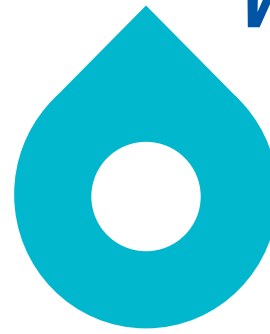




# Understanding the wastewater system



**Our wastewater systems are designed to deal with household waste from toilets and sinks. Wastewater should be about 99% just water. Rainwater or stormwater is a separate system that flows through our roof gutters and downpipes. The waste from a food business has a much higher concentration of fat, oil and grease than your average home and there's a lot more of it. So, it's important to understand your waste and how to manage it.**



## Commercial trade wastewater

Accepting any sort of trade waste into Sydney Water's system is a risk that we must carefully manage, but there's a lot that businesses can do to protect the plumbing within your premises, our system and the environment.

The main concerns for food businesses are cleaning chemicals and greasy waste (we call this FOG – Fats, oils and grease). Although cooking oils are mainly used in liquid form, they harden as they cool, and form a 'fatberg' which can block the pipes. This fatberg will be contaminated with anything flushed down the toilet or sink: human waste from bathrooms, detergents and cleaning agents, food scraps from sinks or greasy spills from restaurant floor wastes.

Wet wipes remain a problem for us, with 75% of blockages still involving them. We have about 30,000 blockages a year, costing us (and ultimately the community) about \$8.8 million a year to remove. On top of this, are the potential environmental and health impacts of wastewater overflows caused by these blockages.

## Grease traps

Grease traps are required on retail food premises as a condition of connection to our services. As the name implies, the grease is 'trapped' before it can enter the wastewater system. Your contractor will pump out this grease and clean your trap at the frequency outlined in your Sydney Water agreement.

Grease traps work on the principle that oils and water don't mix. All the sinks, pipes and floor wastes in your business drain to the grease trap. The lead-in pipes are a key part of your grease trap, giving the oil time to cool so it will separate out. So don't ever try to pour waste oil directly into the grease trap. For a grease trap to work properly, it must be installed properly by a licensed plumber.



## How do oils and waste react in the wastewater system

From your property, wastewater flows into our wastewater mains (sewers). Solid wastes can cool and get stuck anywhere in the pipes. They can join with other solid waste, wet wipes, rubbish and tree roots to form 'fatbergs' which can:

- block pipes in your premises, causing waste to back up into the restaurant
- block pipes outside in your property, neighbours' properties or our wastewater pipes. This causes waste to flow into yards, or onto the street, creating a health and environmental hazard for your local community and polluting creeks and rivers
- interfere with our treatment systems. We're set up to remove a certain amount of waste, but if the system is overloaded, the waste can get into rivers and the ocean where it causes problems for aquatic life and threatens community recreation areas
- prevent us recycling waste. We are always looking for ways to recycle both solid waste (which we re-use as fertiliser and soil conditioners in forestry and agriculture) and recycled water. We treat the recycled water according to the purpose it is intended for.

## What do we do?

We monitor our systems using new digital technologies to try to detect changes in wastewater flow before they cause blockages, but we also rely on our customers to help us by putting the "Unflushables" and the "Unsinkables" in the bin.

Our ongoing maintenance programs to clear tree roots and fatbergs from our systems before blockages, but this isn't always possible as most of the problems are hidden underground.

When the wastewater reaches our treatment plants, a number of processes separate the fats, oils and grease. The process used depends on where the plant is (is it on the coast or inland?) and what sort of waste enters the plant (are there lots of factories or is it mainly residential?), whether we have recycling customers in the area or whether the water is going to a river or the ocean.

Some treatments are physical - using gravity to settle solids to the bottom of large tanks while fats and oils float to the top or using sand and gravel filters to filter out particles. Other treatments are biological, using live cultures of bacteria to consume contaminants

in the waste. And we also use chemicals to assist settling, filtration and disinfection.

Ultimately, the treated wastewater will either be released back into rivers and oceans or recycled.

## What can you do?

- Scrape your plates into the bin and dry wipe to remove any excess grease from sauces and dressings before you wash them. Food scraps and coffee grounds and cooking oil should never go into the sink. Try to remove as much as you can from dirty plates, pots and pans before you wash them.
- Don't use too much detergent when washing up, as detergent breaks down fats. Use enough to make your pots and pans sparkle, but don't waste it. Too much detergent can stop your grease trap working as it disperses the fat through the wastewater, making it harder to trap. You'll also save money on detergent.
- Small quantities of fats and oils from shallow frying can be drained into a container and placed into the bin.
- Cooking oil is expensive – so you want to get your money's worth and re-use it when you can, for example in commercial deep fryers. There's no hard and fast rule as to how often to change cooking oil. You might need to change it each service, daily, weekly or even fortnightly. The more often you change it, the more oil you have to dispose of and the more you need to buy. But leave it too long and it will affect the quality of your food.

You need to find the balance that's right for your food and your business.

- How do you know when to change the oil? Watch for changes in smell, colour, smokepoint. As you fry food, small bits will drop off and burn. As these disintegrate they make the oil darker and it will begin to smoke at a lower temperature. It becomes more difficult to consistently cook good food and it will eventually affect the taste and colour of fried food. It might even smell different.
- When it comes time to change the oil in your fryer, follow the manufacturer's instructions to drain and pour it into your recycling container.
- Most recyclers provide a container for you to put your waste oil in and will work with you to determine the best schedule for pick up and removal off-site.



**Where you put it makes  
a real difference**