

Grease Trap Installation, Operation and Maintenance

Cooking oil, grease and food solids can cause sewerage blockages and overflows, overload wastewater treatment plants and cause pollution in our rivers and waterways. If installed and maintained correctly, grease traps remove the bulk of oil and grease from the drainage system preventing any problems with Council's sewerage infrastructure.

When is a Grease Trap Required?

If you cook or serve hot food, you must install a grease trap and have a trade waste approval with Council. Wastewater from food preparation areas, floor wastes, kitchen sinks, dishwashers and garbage areas should all flow to your grease trap. Grease traps are designed to hold wastewater for a period of time to allow oil and grease to separate from the liquid and rise to the top of the grease trap. Cleaner wastewater underneath the fat layer then flows to the sewer.

Fat and oil generated by cooking processes (i.e. deep fryers and BBQ's) must be collected and stored separately for recycling. They cannot be put down the sink as they will overload the grease trap and cause blockages to pipework and sewerage infrastructure which can be costly for you and Council to fix.

Plumbers can help retail food businesses effectively manage and dispose of greasy wastewater by correctly installing grease traps and other devices. This factsheet can be provided to your plumber to ensure they are aware of Council's requirements for grease trap installations.

Trade Waste Approval

Commercial and industrial businesses connected to Council's sewerage system are required to apply for trade waste approval from Council prior to discharging any wastewater.

A Trade Waste Application Form can be found on Council's website. **IT IS IMPORTANT TO APPLY FOR TRADE WASTE APPROVAL FIRST BEFORE INSTALLING**

A GREASE TRAP. Upon application, Council will review your proposed drainage plans, grease trap design and installation requirements to ensure it will meet the required standards.

Plumbing work must be undertaken by a licensed plumber. They will be required to apply for a Plumbing Approval from Council for undertaking plumbing work associated with the installation of a grease trap. Application for a Plumbing Approval can be found on Council's website.

Sizing Requirements

The type and/or size of your business will determine the appropriate size of your grease trap. The minimum size for a grease trap is 1,000L and maximum size is 5,000L. Refer to Table 1 below for guidance on the appropriate sizing of your grease trap. The number and type of fixtures and fittings you have connected to the grease trap will influence the size requirements of your grease trap.

A grease trap should be designed to allow 1 hour retention time of wastewater and be large enough to allow sufficient cooling of the wastewater to 38°C or below at the outlet of the grease trap. This ensures effective separation of oil and grease from the wastewater prior to the cleaner wastewater being discharged to the sewerage system. Correct sizing will also mean less frequent servicing and pump-out by a contractor, saving you money.

Design Considerations

The grease trap must be installed according to manufacturer's instructions and the plumbing and drainage must comply with the Plumbing Code of Australia, 2016. Refer to Figure 1 below for a preferable drainage layout for a grease trap installation.

Install grease traps as close to the source of grease as possible, so that pipes between the kitchen and the grease trap don't clog with grease. However, be careful not to install the grease trap too close that the

wastewater entering the grease trap is at a high temperatures (i.e. direct from a dishwasher that reaches 85°C).

Kitchen wastewater should preferably drain by gravity to the grease trap and then by gravity to the sewer. If this is not possible, kitchen wastewater can drain to a pump well outside the kitchen. However, this is the least preferred option. Do not install a pumped system for convenience, as it is more difficult and expensive to manage and maintain in operation.

Location	Install the grease trap where it is accessible by vacuum tanker so it can be cleaned out
Inlet connection	Connect the pump-line to a junction then to the double Y junction
Outlet connection	The invert level of the outlet pipe of a grease trap must be correct. If the invert of the outlet is too low, the grease trap will not be the correct capacity. It will be less than specified. If the invert of the outlet is too high, the inlet connection may be submerged. The invert of the outlet pipe must be 150mm lower than the invert of the inlet pipe.
Venting	Install two 100mm high level vents for cross-ventilation: one on the inlet line to the grease trap and one on the grease trap chamber.
Safe access	All above ground grease trap installations require a platform and steps, manufactured to Australian Standard 1657 for safe access to inspect and maintain the grease trap.
Inspections	After installation, arrange an inspection by a Building Surveyor to ensure that the pipe-work is installed according to AS/NZS3500
Vertical clearance	Ensure there is vertical clearance above the grease trap greater than the maximum depth of the grease trap.

Lids	Grease traps should be fitted with a heavy duty gas tight lid. All lids must have standard gatic or access hole lifting boss fittings for ease of removal.
Gully	Do not use the grease trap as a relief overflow point. Install a gully in addition to the trap.
Reflux Valve	Install a reflux valve if the difference in levels between the overflow level of the lowest fixtures and the top of the relief gully is less than 150mm
Sink and Floor Wastes	Floor wastes must be fitted with a fixed screen and dry basket arrestor. Sink wastes must be fitted with a fixed screen.

Venting Grease Traps

Venting the grease trap is an important requirement of the pre-treatment installation. The venting pipework must be 100mm diameter minimum. All grease trap installations must have:

- Two 100mm vents open to the atmosphere for cross ventilation
- An induct vent, high level directly off the grease arrestor
- A high level educt vent off the incoming drainage

Sufficient venting will allow cooling of the wastewater to a suitable temperature, enabling the separation of the oil and grease from the wastewater prior to flowing to the sewer.

Maintaining Grease Traps

The space above the grease trap must be at least equal to the depth of the grease trap. This allows enough access space to monitor the grease trap, remove the grease trap lid, maintain it and get it pumped out. Do not install other services, such as air conditioning ducts, or place other objects such as industrial bins or shipping containers on top of the grease trap lid.

Safe Access for Inspection and Maintenance

All above ground grease traps require a platform and steps manufactured to Australian Standard 1657 for safe access for inspection and maintenance. Grease trap contractors must have unimpeded access to the grease trap and without the need to access another landholder's property. If this is not possible a service easement might need to be created. Another option might be a fixed pump-out line in an area easy accessible. Contractors have fairly long suction hoses to access traps, but the closer they can get the better. If you are in any doubt, ask one of the contractors and obtain a written agreement that they can service the trap.

Sink and Floor Wastes

Sink wastes must be fitted with a fixed screen before being discharged to the sewerage system to stop food waste and solids. A basket arrestor must be installed on any floor wastes that are located in the food preparation and handling areas. There must also be a fixed screen over all floor waste gullies. The basket should be removed, scraped and cleaned regularly.

Cleaning Grease Traps

Grease traps must be pumped out regularly to avoid overflows, odours and polluted wastewater. When your plumbing contractor pumps out your grease trap they will also need to clean the grease traps internal surfaces, and may need to scrape the inside of the trap. Following pump-out, the contractor will be required to refill the trap with water to half level.

Initially, all grease traps should be pumped out at a minimum of 13 weeks but this will depend on the size of your grease trap and the amount and quality of greasy wastewater you generate. You must keep records of the maintenance and services, including frequency and dates of the pump-outs and the name of the company.

Managing Waste Oil

Grease traps are designed to treat greasy wastewater. They are not designed to accept waste oil tipped into them. Waste oil should never be

poured down the drain or into your grease trap. Collect waste oil from deep frying and BBQ's, store it in sealed containers in a properly bunded area and have an oil recycler collect it.

Household practices

The business should employ the following household practices:

- Floors are to be dry swept before washing to avoid wastes being caught up in the wash water discharged down the drain to the sewerage system.
- Scraping of utensils, plates, bowls etc. to the scrap bin is required before washing so as to minimise the amount of waste put down the drain to the sewerage system.
- The use of food waste disposal units (also known as insinkers, in-sin food waste disposers or garbage grinders) are not allowed in non-domestic premises.
- Use low (or no) phosphate content cleaning products. Use as little cleaning product as possible. Detergents dissolve grease which allows the grease to pass through the grease trap more easily into the sewerage system causing drain blockages.
- Never put solid wastes of any type down the sink, even coffee grounds or tea leaves. Provide suitable garbage containers.

Problems

If you notice the wastewater in the sink is not draining away quickly, there may be a blockage in the pipework or the grease trap needs servicing. Call a licensed plumber to get them to check and identify the problem. Don't place drain cleaners down the sink or run excess hot water to clear the drains. This will cause further problems with the grease trap.

More Information

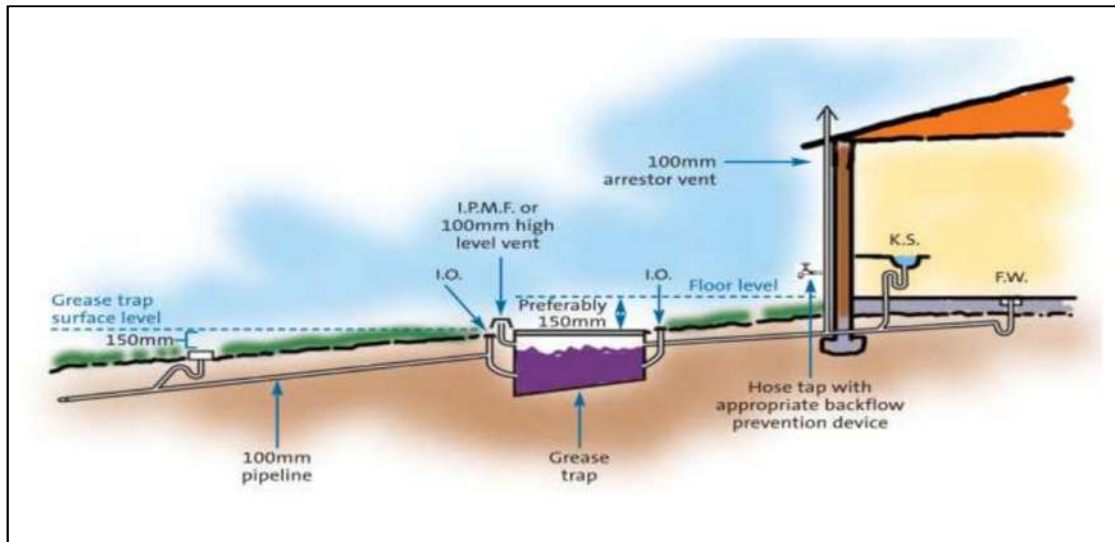
Contact Council's EHO on 6033 8999. Further information about Trade Waste requirements can also be found on Council's website:

www.federationcouncil.nsw.gov.au/Environment-Waste/Water-Sewerage/Liquid-Trade-Waste

Table 1: Sizing of Grease Traps

Commercial process	Discharge	Seats / beds / rooms	Minimum size of grease trap	Additional requirements
Café, canteen, restaurant, club, function centre, hotel (hot food preparation)	1100L/d	Up to 69 seats	1000L	
	3200L/d	70 -199 seats	1500L	
	6400L/d	200-399 seats	2000L	
	9600L/d	400-599 seats	3000L	
Fast food outlets (Burger King, KFC, McDonalds, Red Rooster, Pizza Hut etc.)	-	-	1500L	
Barbequing process				
Rotisseries, charcoal BBQ, hot plate	-	-	1000L	
Steam oven, gas vat	-	-	2000L	Grease interceptor installed upstream of the grease trap
Restaurant, food outlets with wok burner (where large volumes of water are discharged)	-	-	1500L	
Motels (where room service provided)	-	Up to 50 rooms	1000L	
	-	Up to 100 rooms	1500L	
	-	Up to 200 rooms	2000L	
	-	Up to 300 rooms	3000L	
Hospital, hostel, nursing home (if no food waste disposal unit is installed)	1100L/d	Up to 69 beds	1000L	
	3200L/d	70-199 beds	1500L	
	6400L/d	200-399 beds	2000L	
	9600L/d	400-599 beds	3000L	

Figure 1: Preferred drainage layout for a grease trap installation



(Source: Sydney Water <https://www.sydneywater.com.au/> accessed 25 July 2018)