Trade Waste
Pre-Treatment Requirements

LOGAN CITY COUNCIL

1. INTRODUCTION

1.1 Trade Waste Definition

The *Water Supply (Safety and Reliability) Act 2008* defines trade waste as water-borne waste from business, trade or manufacturing premises, other than:

- Waste that is a prohibited substance; or
- Human waste (i.e. domestic sewage); or
- Stormwater.

1.2 Acceptance of Trade Waste

Council provides a wastewater system primarily for the transport and treatment of domestic sewage. However, Council may also accept trade waste where it is satisfied that compliance with all legislative requirements and wastewater treatment plant licence conditions will be maintained.

1.3 Trade Waste Implications

Trade waste may contain significantly increased organic strength compared to that of domestic sewage and may also contain other substances such as high levels of fats and grease, heavy metals, organic solvents and chlorinated organic substances. These pollutants can harm people, the environment and the wastewater system.

1.4 Trade Waste Management Objectives

Council's objectives in managing the discharge of trade waste to the wastewater system are to:

- Protect and preserve the health and safety of personnel and the public;
- Protect wastewater infrastructure;
- Protect wastewater treatment processes;
- Protect the environment; and
- Facilitate recycling and reuse of treated effluent and biosolids.

1.5 Related Documents

Council has prepared the following documents which relate to the *Pre-treatment Requirements*:

- *Sewer Admission Standards*;
- *Charging Framework & Rates*; and
- *Trade Waste Approval Conditions*.

These documents can be found on Council's website (www.logan.qld.gov.au).

2. OVERVIEW

2.1 General

Council requires most trade waste to be treated prior to entering the wastewater system in order to reduce the level of pollutants. Pre-treatment requires the installation of appropriate devices, together with regular servicing to ensure the devices remain efficient and effective. Where approved by Council, devices may be shared by multiple trade waste generators.

2.2 Responsibility

Council deems the property owner responsible for the installation, maintenance and servicing of pre-treatment devices in accordance with manufacturer recommendations and applicable regulations. This responsibility applies irrespective of any arrangements the property owner may have with the trade waste generators connected to the devices or any other parties.

Where pre-treatment devices are installed on a property which is different from where the trade waste is generated (e.g. common property), the property owner from where the trade waste is generated remains responsible for the maintenance and servicing of the devices. This may require the property owner to broker arrangements with a body corporate or other parties.

Where the trade waste is generated on a common property (e.g. bin wash), the body corporate will be issued with a Trade Waste Approval and therefore will be responsible for the installation, maintenance and servicing of the pre-treatment devices.

2.3 Device Sizing

The correct sizing of pre-treatment devices is critical to ensure there is suitable capacity to effectively reduce the level of pollutants prior to discharging the trade waste to the wastewater system. The sizing of the devices is determined by the peak hourly flow rate. Additional information in relation to the sizing calculations for the various device types is provided in the respective sections of this document.

2.4 Undersized Devices

Undersized devices may become overloaded and impact on the quality of trade waste discharged to the wastewater system. Where a device is determined to be undersized, this will constitute a Trade Waste Approval non-compliance and require the implementation of corrective actions. These actions may include, but not be limited to:

- Increased servicing frequency;
- Increased sample analysis and associated charges;
- Increased trade waste volumetric charges due to increased pollutants;
- Upgrade of the device capacity or replacement of the device within a specified timeframe; and
- Inclusion of a special condition against the property.

2.5 Plumbing Application

All pre-treatment devices proposed to be installed must be identified on the hydraulic plans submitted to Council as part of a Plumbing Application. Council will assess the proposed size and installation location to ensure suitability and advise any specific requirements. Upon satisfactory completion of the plumbing and drainage works, a compliance certificate will be issued by Council.

2.6 Installation

All pre-treatment devices must be installed as per the manufacturer's specifications and in compliance with all relevant legislation, standards and Council requirements, as well as in accordance with the hydraulic plans approved by Council. All plumbing and drainage works must be carried out by a licensed plumber and be verified by Council. Additional information in relation to the installation requirements of the various device types is provided in the respective sections of this document.

2.7 Maintenance

The property owner must ensure:

- Pre-treatment devices are maintained in accordance with manufacturer's specifications;
- Connected pipework is not defective or affecting operation of the pre-treatment devices; and
- Areas surrounding the pre-treatment devices are maintained to enable servicing and inspection.

2.8 Servicing

Pre-treatment devices are required to be regularly serviced to maintain efficiency and effectiveness. Service frequencies vary according to:

- Type and capacity of the devices;
- Volume and strength of the trade waste discharged to the devices; and
- Work practices employed by the trade waste generators connected to the devices.

Service frequencies are specified in the Trade Waste Approval for each pre-treatment device installed on a property. Additional information in relation to the services frequencies for the various device types is provided in the respective sections of this document.

Failure to have pre-treatment devices serviced in accordance with the specified frequencies will impact on the quality of the trade waste discharged to the wastewater system. Accordingly, Council reserves the right to apply increased trade waste volumetric charges, as well as sample analysis costs.

Continued failure to service the devices will constitute a Trade Waste Approval non-compliance and require the implementation of corrective actions. Council reserves the right to engage a licensed liquid waste transporter or agent to service the device if the specified service frequencies have not been met. The cost of the service, together with an administration fee, will be charged on the subsequent property rates notice.

2.9 Electronic Waste Tracking

Council monitors compliance with specified pre-treatment device service frequencies via an electronic waste tracking system. This includes removal of waste from the devices, as well as any servicing of the devices required to maintain operational functionality (e.g. onsite treatment plants).

Property owners are required to engage licensed liquid waste transporters or service agents registered to use the electronic waste tracking system. A list of registered providers can be found on Council's website (www.logan.qld.gov.au).

3. GREASE ARRESTORS

3.1 National Guideline

Wastewater discharged from food businesses generally has significantly higher concentrations and/or loads of suspended solids comprising food, fats, oils and grease (FFOG). This increases the potential for damage, or loss of function, in the wastewater system.

A *National Guideline for Managing Food, Fats, Oils & Grease from Food Premises* (FFOG Guideline) has been developed by the Water Services Association of Australia (WSAA) which:

- Covers a range of food businesses including retail outlets, manufacturers and wholesalers;
- Outlines the characteristics and risks of FFOG; and
- Details the pre-treatment technologies and associated sizing of grease arrestors to maximise the removal of FFOG prior to the discharge of trade waste to the wastewater system.

The FFOG Guideline forms part of the *Australian Sewerage Quality Management Guidelines* developed by WSAA which is utilised by Council to inform best practice trade waste management. The following sections provide additional information regarding key elements of the FFOG Guideline. A full copy of the FFOG Guideline is able to be purchased directly from WSAA (www.wsaa.asn.au).

3.2 Risks

Activities generating trade waste from food businesses may include, but not be limited to:

- Preparing food prior to cooking or packaging;
- Washing crockery, cutlery and utensils associated with food preparation, cooking or serving;
- Food cooking processes; and
- Cleaning bench tops, display cabinets, ovens and floors.

Accordingly, a number of factors contribute to the overall risk assessment for food businesses. These factors have been categorised as food-based risks (preparation, products and serving) and are outlined in the following table. Where the food preparation, products and serving characteristics fall into different risk categories, the risk is that which best represents the cumulative effect of all three categories.

Table 1: Food-Based Risk Categories

Category	Low Risk	Medium Risk	High Risk
Food Preparation	• No cooking • Raw whole foods[1] • Pre-packaged foods • Assembly from raw foods or foods prepared elsewhere • Low food waste to sewer	• Steaming, boiling, microwaving, grilling low fat or oil foods • Baking[2] • Butcher or deli • Moderate food waste to sewer	• BBQ, frying, deep frying, grilling, roasting meat • Poultry cookers / combi ovens • High food waste to sewer
Products	• Fresh fruit and vegetable drinks • Sandwiches, rolls and sushi[3] • Cakes, slices and nuts	• Fresh meat and smallgoods • Low fat or oil foods and meals • Coffee and related hot and cold drinks • Pizza	• High fat or oil foods and meals • High fat or oil content stocks, bases and sauces • Cream products e.g. ice cream
Serving	• Predominately takeaway	• Both eat-in and takeaway in similar proportions	• Predominately eat-in

Note 1: Excludes butchery (which is a medium risk).

Note 2: Separately consider preparation of contents in or on baked goods.

Note 3: Assumes cooked contents are prepared elsewhere.

Source: National Guideline for Managing Food, Fats, Oils & Grease from Food Premises

3.3 Pre-Treatment Technologies

There are three (3) main pre-treatment technologies used for food businesses:

- Passive grease arrestors;
- Active grease arrestors; and
- Advanced treatment technologies.

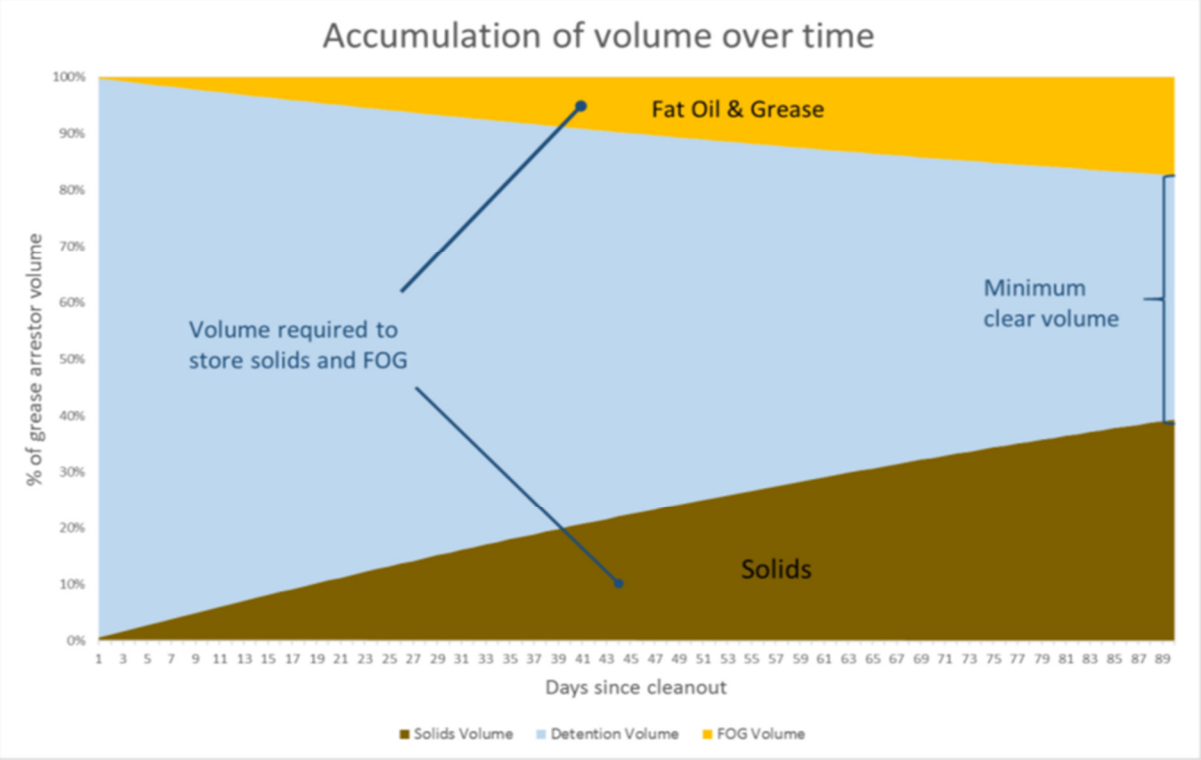
The following sections provide an overview of each technology.

3.3.1 Passive Grease Arrestors

The most common technology used for food businesses is a passive grease arrestor. These arrestors provide a reliable and affordable option for most applications, and require less expertise and effort to operate and maintain than alternatives.

Passive grease arrestors consist of a tank which holds the wastewater long enough for suspended solids to settle and for the FFOG to float. The FFOG remains in the tank and the cleaner wastewater discharges to the sewer. To function correctly, these arrestors require periodic cleanout to remove the accumulated FFOG. The following figure provides a simplified functional representation.

Figure 1: Passive Grease Arrestor – Simplified Function



Source: National Guideline for Managing Food, Fats, Oils & Grease from Food Premises

Effective pre-treatment requires sufficient volume to provide:

- Adequate detention time to achieve separation even at peak wastewater flow rates;
- Space to store accumulated FFOG, as well as sufficient clear volume to maintain the required detention time; and
- Adequate volume to cool the trade waste to a temperature that does not exceed the sewerage acceptance criteria.

The sizing of passive grease arrestors is detailed in **Section 3.5**.

3.3.2 Active Grease Arrestors

Active grease arrestors use mechanical or hydraulic mechanisms to assist the separation of suspended FFOG from wastewater. The following is applicable:

- Active grease arrestors provide additional capacity when installed upstream of a passive grease arrestor;
- Active grease arrestors provide a fall-back option as a stand-alone pre-treatment device if other pre-treatment options are not suitable. In this scenario, additional measures are required to ensure the device remains in service at all times; and
- When choosing an active grease arrestor, the capability should be determined from credible and verified performance data. The capacity must be sufficient for the peak wastewater flow and peak load of FFOG for the particular size of business.

The installation of active grease arrestors is subject to special approval from Council.

3.3.3 Advanced Treatment Technologies

Advanced treatment technologies use chemical, physical or biological means to separate or break down larger quantities of FFOG. These technologies may be an option for large installations or where FFOG is more difficult to separate, however generally will require site-specific design. The use of advanced treatment technologies is subject to special approval from Council.

3.4 Connection Thresholds

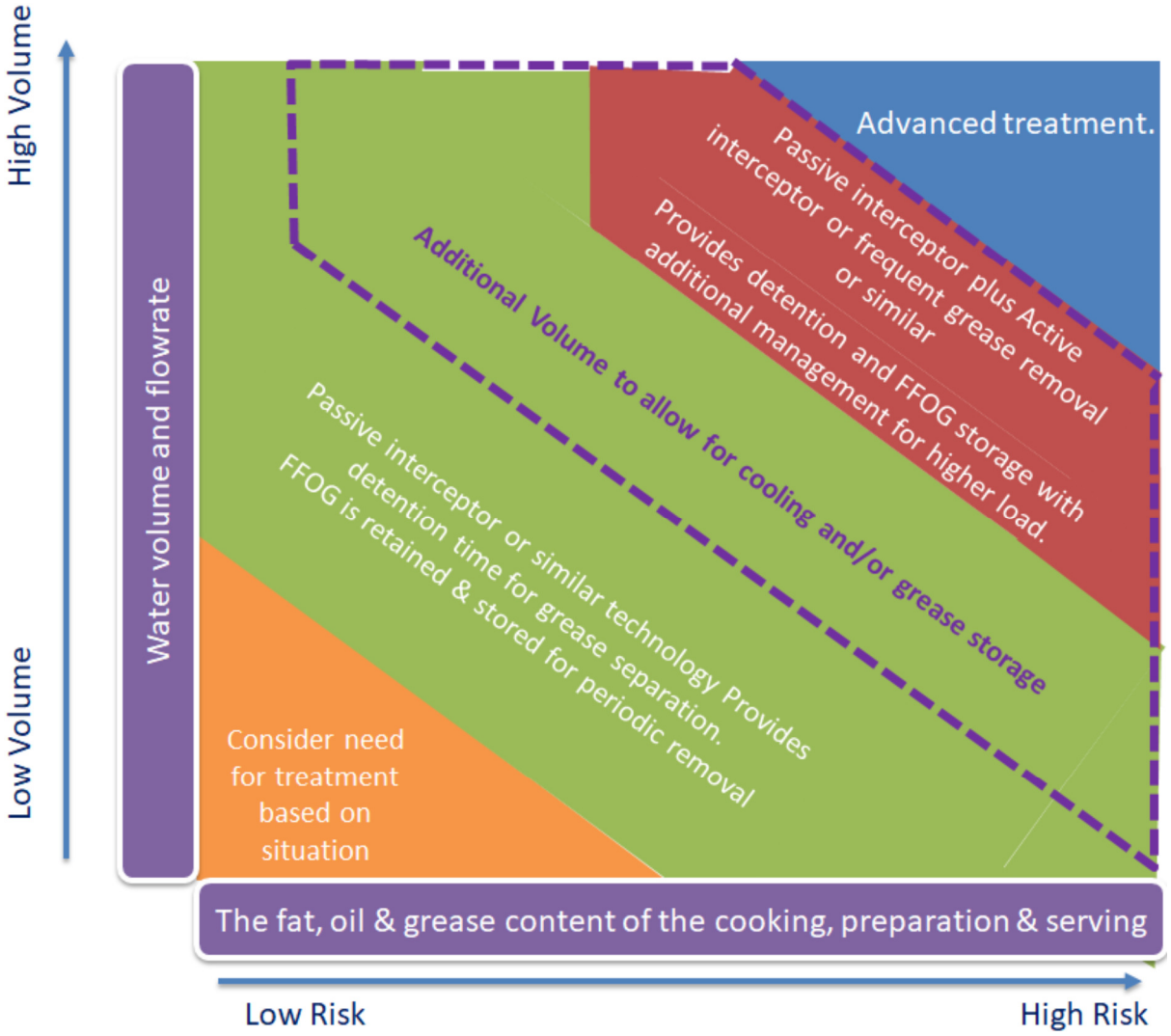
Most trade waste generators operating in the food industry or providing food services to customers will require connection to a grease arrestor. However, the following is applicable:

- Generators providing retail food services (i.e. selling food not prepared on site) or providing food services on an infrequent basis or level of operation that would have minimal wastewater system risks may not require connection to a grease arrestor. These will be considered by Council on a case-by-case basis and may include:
    - School and sporting ground canteens, kiosks etc.;
    - Childcare centre kitchenettes (e.g. container rinse);
    - Community halls, museums, performing arts venues etc.; and
    - Convenience stores with pre-packaged food warmers and drink dispensers.

- Large volume food businesses generating a substantial amount of FFOG may be more suited to advanced treatment technologies where the level of risk to the wastewater system requires a higher level of treatment and control. The factors impacting on this outcome will depend on the particular circumstances of the food business, taking into consideration available space, accessibility and characteristics of the wastewater flow.

The following diagram is a general guide to determine thresholds at which to consider applying the use of the various pre-treatment technologies.

Figure 2: Thresholds for Pre-Treatment Technologies



Source: National Guideline for Managing Food, Fats, Oils & Grease from Food Premises

3.5 Passive Grease Arrestor Sizing

The correct sizing of a passive grease arrestor is critical to ensure it has suitable capacity to reduce the amount of FFOG contained in the trade waste.

3.5.1 Volume Calculation

To function effectively, a passive grease arrestor must have sufficient volume to provide:

- Minimum Clear Volume – sufficient retention time to maintain effective separation of FFOG at peak flow rates. The minimum clear volume is calculated from the wastewater flow rates.
- Storage Factor – sufficient additional volume to store the FFOG that accumulates between the cleanouts. The storage factor is determined from the amount of FFOG in the wastewater. The risk profile of each application determines the expected amount of FFOG.

The minimum clear volume is multiplied by the storage factor to provide the passive grease arrestor volume required for a particular application.

3.5.2 Calculation Methods

The FFOG Guideline outlines the following methods for sizing calculations:

- Method 1 – Fixtures;
- Method 2 – Seating or meals capacity; or
- Method 3 – Calculated average water consumption.

Council has adopted '**Method 1 – Fixtures**' to calculate the sizing of all passive grease arrestors. The following section provides an overview of this method. The other methods are not applicable.

3.5.3 Method 1 - Fixtures

This method comprises the calculation of the passive grease arrestor sizing based upon the number of connected fixtures and the associated peak flow rates. The following is applicable:

- Typical flow rates have been determined for a range of common fixture types. The flow rates have been determined from the characteristics of each fixture and the potential use in an hourly period. The fixtures and peak flow rates are detailed in **Appendix A**.
- The flow rates for each connected fixture type are multiplied by a storage factor based upon the Food-Based Risk Categories detailed in **Section 3.2**. The following factors are applicable:
    - Low Risk Storage Factor = 1
    - Medium Risk Storage Factor = 1.5
    - High Risk Storage Factor = 2

    Unless other determined, Council applies a High Risk Storage Factor to all fixtures.

The following table presents the steps to calculate the passive grease arrestor size.

Table 2: Calculation Steps

Steps	Activities
Step 1	• Determine the quantity of each fixture type connected to the grease arrestor. • Shared grease arrestors must include all connected fixtures.
Step 2	• Determine the peak flow for each fixture type (**Appendix A**). • Calculate the peak flow for each fixture type based upon the quantity of fixtures.
Step 3	• Determine the storage factor for each fixture type. • Multiply the fixture peak flow calculation (Step 2) by the storage factor.
Step 4	• Sum the peak flows and storage factors for all fixture types. • The total sum amount is the minimum grease arrestor size (minimum 1,000 litres)

The following is applicable:

- To assist users, Council has developed a *Passive Grease Arrestor Sizing Calculator* which can be found on Council's website (www.logan.qld.gov.au). This includes a worked example.
- The fixture types listed in **Appendix A** are not exhaustive. Council must approve the flow rates for any other proposed fixture types. Where made available, the manufacturer specifications for fixture flow rates will over-ride the estimated flow rates detailed in **Appendix A**.
- The passive grease arrestor must have a capacity equal to, or greater than, the total number of litres calculated. Property owners should also consider future trade waste generator needs, as any increase in the fixtures will require additional grease arrestor capacity.
- The minimum size for all new grease arrestors is 1,000 litres. Where connection is proposed to an existing installed pre-treatment device which has a lower capacity, Council will use the *Passive Grease Arrestor Sizing Calculator* to determine suitability and/or the need to upgrade. Council may also undertake a condition assessment to confirm the integrity of the device and the need to upgrade or undertake repairs.

The identification of an undersized passive grease arrestor installed on a property will constitute a Trade Waste Approval non-compliance and require the implementation of corrective actions (**Section 2.4**).

3.6 Specifications

Unless otherwise approved by Council, passive grease arrestors must meet the following requirements:

- Minimum capacity of 1,000 litres;
- Be fitted with air-tight lids;
- Be fitted with 100mm vents;
- Be fitted with 100mm sample points on the inlet and outlet of the device;
- Have a capacity below the invert of the arrestor outlet which is at least twice the total capacity of connected fixtures and fittings, or a larger capacity where required by Council;
- Have a distance from the top of the arrestor to the outlet invert that is at least half the depth of the arrestor below the outlet invert;
- Have the outlet invert level at least 75mm below the inlet invert level; and
- Pre-cast concrete arrestors are to be protected by an internal acid resistant protective coating which must be installed during the manufacture of the device.

3.7 Installation

Specific conditions relating to the installation of passive greases arrestors include:

- All arrestors must be installed in a location to enable servicing, maintenance and inspections to be performed in accordance with workplace health and safety guidelines.
- Ideally arrestors should be installed external to a building to enable servicing, maintenance and inspections to be readily performed. A hose tap, complete with backflow prevention, must be installed within 12 metres of the device to assist with cleaning the arrestor during servicing.
- Arrestors located inside a building must be installed in a suitably sealed, vermin proof room with mechanical ventilation. The room must have external access and be completely sealed from food preparation areas. A hose cock and remote servicing pipe must be located in the room.
- Remote servicing pipes must have a minimum diameter of 80mm. The pipe inlet at the device end must be positioned above the device and have a cam lock fitting. The suction end of the pipe should be easily accessible and have a male cam lock fitting.
- Grease arrestors installed in restricted height areas must satisfy the following requirements:
    - The minimum clearance height above the arrestor lids to the underside of the structure (e.g. floor slab or concrete thickening beam or any other obstruction) must be:
        - 1500mm for gastight screw on light duty lids; and
        - 1800mm for gastight covers and frame.
    - A safe working platform may be required adjacent to the grease arrestor to enable the gastight covers to be removed from the frame. The walkway floor of the platform should be a minimum of 2100mm clear of the underside of the above structure.

3.8 Servicing

In accordance with Council's *Charging Framework & Rates*, trade waste generators are assigned to charging categories which are primarily based on the level of pollutants contained in the discharge to the wastewater system. These categories, combined with the capacity of the device, are also the main factors used to determine the service frequency of the grease arrestors.

Council has established a *Passive Grease Arrestor Service Frequency Guide* (**Appendix B**). Unless otherwise determined by Council, the service frequencies will be in accordance with this guide. Factors which may influence adjustments to the service frequencies include, but are not limited to:

- Age and condition of the device;
- Results of sample analysis (including previous history);
- Volume of trade waste discharged to the device (e.g. overloaded);
- Number and/or type of generators connected to the device;
- New generators connecting to the device; and
- Existing generators disconnecting from the device.

3.9 Tips to Improve Discharge Quality

Generators can implement work practices which may improve the quality of trade waste discharged to the wastewater system and therefore reduce charges due to lower levels of pollutants, as well as reduce grease arrestor service frequencies and associated costs. Activities include:

- Reduce the use of cooking oils, grease and fats;
- Remove oils, grease and fats from surfaces and utensils by using paper towels before washing;
- Scrape food waste and residues from plates, surfaces and utensils into rubbish bins;
- Ensure sink strainers are installed and are regularly emptied into rubbish bins; and
- Sweep floors before washing and place the sweepings into rubbish bins.

4. OILY WATER SEPARATORS

4.1 General

Oily water separators are used to separate oil and pollutants from trade waste prior to being discharged to the wastewater system. Most trade waste generators operating in motor trade related industries will require connection to an oily water separator. Activities may include, but not be limited to:

- Degreasing and washing of engines, gearboxes and automotive parts;
- Washing of workshop floors;
- Washing and detailing of motor vehicles, trucks and heavy machinery; and
- Rubbing down, and the use of preparation and painting products by smash repair workshops.

Types of oily water separators include, but are not limited to:

- Coalescing plate separator (CPS) and associated holding tank;
- Vertical gravity separator (VGS) and associated holding tank; and
- Triple interceptor oil arrestor.

4.2 Sizing

The required size of an oily water separator will be calculated based on the peak hourly flow rate. The minimum requirements for new devices are:

- 1,500 litres per hour for a CPS or VGS;
- 1,000 litres for holding tanks associated with a CPS or VGS; and
- 1,000 litres for triple interceptor oil arrestors.

Where an existing installed oily water separator does not meet the minimum requirements, Council will review the peak hourly flow rate to determine suitability and/or the need to upgrade. The identification of an undersized device installed on a property will constitute a Trade Waste Approval non-compliance and require the implementation of corrective actions (**Section 2.4**).

4.3 Installation

The specific conditions in relation to the installation of an oily water separator will depend on the nature of the trade waste generating activities and the site. The requirements will generally be determined by a hydraulic engineer and detailed on the hydraulic plans submitted as part of the Plumbing Application.

Figure 3 presents a typical installation of an oily water separator for a bunded mechanical / wash bay. This is provided for general information purposes and must not be relied upon.

Figure 3: Typical Mechanical / Wash Bay

Typical bunded mechanical/wash down area

A. Collection pit with (1) A removable basket for cleaning and (2) A diversion system for rainwater runoff to stormwater connection (This diversion valve is only required if the area is not covered or bunded)
B. Diversion valve for storm/rain water runoff to stormwater connection
C. Oil floating residue
D. Wastewater for treatment and release to sewer
E. Sludge collection to be pumped and clean as requested by Council
F. Holding tank with a minimum capacity of 1000L
G. High level alarm sensor prior to tank overflow
H. Low level alarm sensor to reduce pumping sludge into treatment process
I. CPS or VGS unit no less than 1500L/hour flow rate
J. Access to extract samples
K. Collection tank for any oil syphoned from treatment process for offsite treatment
L. Separate water meter to measure consumption
M. Electronics for high and low level alarm, pump and high pressure water system
N. Treated wastewater discharged to sewer
O. Constructed bunding to prevent wastewater runoff to other areas and stop rainwater infiltrating the sewer network

4.4 Servicing

The following servicing arrangements are applicable:

- The standard servicing frequency for an oily water separator (and holding tank) is 26 weeks, however this may be adjusted by Council depending on the volume and pollutants;
- The servicing of an oily water separator (e.g. CPS or VGS) must be performed in accordance with manufacturer recommendations. Depending on the volume and pollutants, Council may require the servicing to be performed by an approved independent contractor; and
- The servicing of a holding tank or oil arrestor must be performed by an appropriately licensed liquid waste transporter.

5. OTHER PRE-TREATMENT DEVICES

The following sections provide information and requirements on other common pre-treatment devices. This list is not exhaustive.

5.1 Silt Arrestors

Silt arrestors reduce the amount of silt, sand and other solids in the trade waste prior to being discharged to the wastewater system. These devices are generally installed in wash bays used to clean motor vehicles, trucks and heavy vehicles but can also be used for other purposes. The following is applicable:

- The required size of a silt arrestor will be calculated based on the peak hourly flow rate. The minimum requirements for a new device is 1,000 litres;
- The standard servicing frequency for a silt arrestor is 26 weeks, however this may be adjusted by Council depending on the volumes and pollutants; and
- The servicing of a silt arrestor must be performed by a licensed liquid waste transporter.

5.2 Cooling Pits

Trade waste from commercial or institutional laundries (e.g. hospitals, aged care facilities) is generally required to be discharged through a pre-treatment device such as a cooling pit which is designed to:

- Reduce temperature to a maximum of 38ºC; and
- Reduce pollutants such as lint, sand and inert solids.

The required size of the device will be calculated based on the peak hourly flow rate. The servicing frequency is 52 weeks, however this may be adjusted by Council depending on the volumes and pollutants. Servicing must be performed by a licensed liquid waste transporter.

5.3 Onsite Treatment Plants

Onsite treatment plants are primarily required for large volume trade waste generators operating in the food industry such as abattoirs and dairies, as well as generators involved in metal coating and finishing activities such as anodising, galvanising and powder coating. Onsite treatment plants are designed to reduce pollutant levels in order to comply with the *Sewer Admission Standards*. The design, installation and servicing of these plants will be considered by Council on a case-by-case basis.

5.4 Soakage Tanks

Cooking utensil soakage tanks are generally used for the cleaning of cooking equipment by trade waste generators operating in the food industry or providing food services to customers. The soakage tanks retain a build-up of the fat, grease, carbon and oil removed during the cleaning process.

Due to high pollutant levels, Council prohibits the trade waste from soakage tanks being discharged to the wastewater system. The minimum service frequency of soakage tanks is 4 weeks and the contents must be transported from site and disposed of at a licensed waste facility.

5.5 Food Waste Disposal Systems

Council prohibits the installation and use of in-sink food waste disposal systems (e.g. garbage grinders) in non-residential properties. These systems can substantially increase the quantities of food waste in the wastewater system which can impact on network operations and treatment processes.

5.6 Macerator Units

Council may allow the installation and use of macerator units to dispose of single-use items made from cellulous materials (e.g. disposable hospital bed pans). Applicants must demonstrate there will be no impact on the wastewater system from the cellulous materials. Should blockages occur in the wastewater network, the macerator units must be removed.

5.7 Diversion Valves

Trade waste diversion valves are typically used for unroofed wash bays. Table 3 provides an overview of the main diversion valve types and associated service frequencies. Diversion valves are required to be serviced by a licensed plumber in accordance with manufacturer recommendations. A copy of the service report is required to be submitted to Council.

Table 3: Diversion Valves

Type	Description	Service
Standard	• The controller is designed to automatically detect when hoses and washing equipment are in operation, which then directs the wastewater to an oily water separator. • A short period after the hoses and washing equipment are turned off, the controller closes the valve so that any rainwater is directed to the stormwater system.	26 weeks
First Flush	• A gauge measures the first 10mm of rainwater and diverts this wastewater to a pre-treatment device, such as a pit or holding tank. • Once 10mm is reached, the controller closes the valve so that further rainwater is directed to the stormwater system, as the pad is deemed flushed of contaminants.	13 weeks
Hydrocarbon Sensor	• A diversion valve with a hydrocarbon sensor monitors the quality of run-off leaving the site and captures only the run-off that is polluted by free floating hydrocarbons. • These reduced quantities result in less running time for the pre-treatment device and less volumes discharged to the wastewater system.	13 weeks

6. MISCELLANEOUS ITEMS

6.1 Additives

Additives used in pre-treatment processes, such as bacterial cultures and enzymes, must be certified by experts and assessed by Council as harmless to the wastewater system and the environment prior to use. Where the use of an additive is allowed by Council, pre-treatment devices must continue to be regularly serviced by the complete evacuation method at a frequency determined by negotiation.

6.2 Cleaners

Raw or depleted degreasing substances or baths of detergent cleaners, hydrocarbon cleansers, caustic soda, phenol/cresol solutions, cresylic acid and chlorinated hydrocarbons must not be discharged as trade waste. These are prohibited substances and must be disposed off-site at a licensed waste facility. Where detergents are being used in the generation of oily water wastes, then such detergents must be “quick breaking” to rapidly break the emulsion and improve oil separation in the pre-treatment device.

APPENDIX A

ESTIMATED PEAK HOURLY FLOW RATES	
Fixture	**Peak Flow (Litres / Hour)**
Domestic dishwasher	30
Commercial dishwasher (door)	120
Commercial dishwasher (conveyor)	300
Sink - single bowl (depth up to 300mm)	75
Sink - double bowl (depth up to 300mm)	150
Sink - utility / pot (depth greater than 300mm)	150
Floor waste (per 50m^2 of floor area or part thereof)	50
Cleaner's sink	50
Hand basin	50
Traditional wok (per burner)	200
Waterless wok (per burner)	20
Combi oven / steamer roast oven (up to 40 racks)	150
Bain Marie (water heated)	50
Kettle / steamer cooker	100
Bratt pan	100
Noodle / pasta cooker	100

APPENDIX B

PASSIVE GREASE ARRESTOR SERVICE FREQUENCY GUIDE					
Capacity	**Category 1**	**Category 2**	**Category 3**	**Category 4**	**Category 5**
250	26 weeks	8 weeks	4 weeks	-	-
550	26 weeks	8 weeks	4 weeks	4 weeks	-
1,000	26 weeks	13 weeks	8 weeks	4 weeks	Variable
1,500	26 weeks	13 weeks	8 weeks	4 weeks	Variable
2,000	26 weeks	13 weeks	8 weeks	4 weeks	Variable
3,000	26 weeks	18 weeks	13 weeks	8 weeks	Variable
4,000	26 weeks	18 weeks	13 weeks	8 weeks	Variable
5,000	26 weeks	18 weeks	13 weeks	8 weeks	Variable