# Trade Waste

# ENVIRONMENTAL MANAGEMENT PLAN AND TECHNICAL SPECIFICATIONS

WIDE BAY water

A Business Unit of Fraser Coast Regional Council

water today water tomorrow

1 January 2019 - V5

| REVISIONS TO PREVIOUS VERSIONS | | |
|---|---|---|
| Version | Date | Details of Changes |
| V5* | 1/01/2019 | Correction of Typo. Update of format. |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

*****THIS DOCUMENT STARTED AT VERSION 5 TO COINCIDE WITH THE VERSION APPLIED BY THE EDOC SYSTEM BEFORE THIS DOCUMENT BECAME A CONTROLLED DOCUMENT

# TABLE OF CONTENTS

# 1 Introduction

Understanding your trade waste responsibilities and the relationship between water usage, wastewater discharge and our environment can save you money. This brings benefits to you as a Trade Waste Generator or Property Owner, Wide Bay Water (WBW) and the community.

This Trade Waste Environmental Management Plan and Technical Specification (Plan) is designed to help you understand and meet your trade waste requirements, and to assist you in gaining a *Trade Waste Approval* to discharge trade waste to WBW's sewerage system as quickly and efficiently as possible. This Plan is also designed to help WBW meet its regulatory requirements.

WBW's Trade Waste Officers are available to offer advice and guidance at any stage of the trade waste management process and can be contacted on telephone 1300 79 49 29 or email *TradeWaste@frasercoast.qld.gov.au*

# 2 Definitions

| Term | Definition |
|---|---|
| **Arrestor** | A trade waste pre-treatment apparatus designed and installed to separate and retain harmful and undesirable matter, from trade waste and permit less polluted trade wastes to discharge into the sewerage system.<br>Examples of arrestors are:<br>• in-sink and in-floor basket arrestors for collecting course solids,<br>• neutralising arrestor for neutralising acidic and alkaline substances,<br>• grease arrestor (grease trap) for collecting and solidifying fat, grease and similar matter,<br>• oil arrestor (oil interceptor) for collecting oil and petroleum products, and<br>• silt arrestor for collecting soil, sand, gravel and other sedimentary solids. |
| **Authorised agent** | Person or firm appointed by the Property Owner to act on their behalf. Notification of such appointment is to be lodged in writing with WBW. In this document reference to "Property Owner" also refers to authorised agent. |
| **Authorised officer** | Person appointed as an authorised officer by WBW under section 402 of the Water Supply (Safety Reliability) Act 2008. |
| **Biochemical Oxygen Demand (BOD)**<br>**Also called Biological Oxygen Demand** | The decrease in oxygen content in mg/L of a sample of water in the dark at a certain temperature over a certain period which is brought about by the bacterial breakdown of organic matter. The oxygen demand is measured after five days (BOD5), at which time 70% of the final value has usually been reached. It is used as a measure of the degree of water pollution. |
| **Category 1 Trade Waste Premises** | Low strength and low volume (less than 500 kilolitres (kL) per annum). |
| **Category 2 Trade Waste Premises** | Low strength and high volume (greater than 500 kL per annum). |
| **Category 3 Trade Waste Premises** | High strength by negotiation. |
| **Chemical Oxygen Demand (COD)** | The amount of oxygen required to oxidise all organic matter that is susceptible to oxidation by a strong chemical oxidant. COD is expressed as the amount of oxygen consumed from a chemical oxidant in mg/L during a specific test. |
| **Cleaner Production** | The integration of sustainability principles to processes, products and services to increase resource efficiency and reduce risks to humans and the environment.<br>In the context of trade waste, Cleaner Production generally encompasses the top tiers of the waste hierarchy, namely avoidance, minimisation and reuse within the boundaries of the facility generating the waste, but can also include utilisation of wastes from one industry to another. |
| **Domestic sewage** | The water-borne waste derived from human origin comprising of faecal matter, urine and liquid household waste from water closet pans, sinks, baths, basins and similar fixtures designed for use in private dwellings and does not include trade waste. |

| | |
|---|---|
| **Effluent** | The liquid discharged from a pre-treatment apparatus or onsite treatment system. |
| **Electrical conductivity (EC)** | The ability of water to carry an electric current, is used as an indicator of salinity and the concentration of dissolved salts in a waterbody and measured in siemens per metre (S/m) or micro siemens per centimetre µS/cm). |
| **Fraser Coast Regional Council (FCRC)** | Telephone: 1300 79 49 29<br>Website: www.frasercoast.qld.gov.au |
| **Grease arrestor (grease trap)** | A trade waste pre-treatment apparatus designed and installed to separate and retain harmful and undesirable matter, such as grease fat and silt, from trade waste and permit less polluted trade wastes to discharge into the sewerage system. |
| **Medical wastes** | Solid medical material such as syringes, hypodermic needles, other sharps, bandages, dressings, body parts, contaminated bedding and surgical wastes, isolation wastes, infectious agents and pathological wastes. |
| **Oil arrestor (oil interceptor, oil water separator)** | A trade waste pre-treatment apparatus designed and installed to separate and retain harmful and undesirable matter, such as mineral oils, hydrocarbons and silt, from trade waste and permit less polluted trade wastes to discharge into the sewerage system. |
| **Property Owner** | (i) a registered proprietor of freehold land,<br>(ii) or meaning under the Local Government Act 2009. |
| **pH** | A measure of the acidity or alkalinity of a solution, numerically equal to 7 for neutral solutions, increasing with increasing alkalinity and decreasing with increasing acidity. The pH scale commonly in use ranges from 0 to 14. |
| **Premises** | (a) a building or other structure,<br>(b) land, whether or not a building or other structure is situated on the land. (Sustainable Planning Act 2009),<br>(c) for a lot under the Body Corporate and Community Management Act 1997 or the Building Units and Group Titles Act 1980—the common property for the lot (Water Supply (Safety and Reliability) Act 2008, or<br>(d) premises group. |
| **Premises group** | The land comprised in 2 or more premises all the owners of which have mutual rights and obligations under the *Body Corporate and Community Management Act 1997* or the *Building Units and Group Titles Act 1980* for their respective ownerships, and includes the common property forming part of—<br>(a) if the premises are lots included in a community titles scheme under the *Body Corporate and Community Management Act 1997*—the scheme land under that Act for the scheme; or<br>(b) if the premises are lots under the *Building Units and Group Titles Act 1980*—the parcel of which the premises form part. |
| **Pre-treatment apparatus** | Equipment used to reduce or treat the contaminants in trade waste. |
| **Prohibited Substances** | A substance included in Schedule 1 of the Water Supply (Safety and Reliability) Act 2008 including; oil and grease, stormwater, subsoil water and surface water. |
| **Sewage** | Household and commercial wastewater that contains, or may contain, faecal, urinary or other human waste. |

| | |
|---|---|
| **Sewerage or Sewerage System** | Sewerage system is the network of collection, conveyance, pumping, treatment and disposal facilities owned and/or operated by a sewerage authority. |
| **Sewer Admission Limit (SAL)** | The maximum allowable concentration or maximum load of any substance or contaminant contained in any trade waste discharge. |
| **Seepage water** | Water that seeps from the ground into that part of a structure that is built below ground level. *Examples of structures built below ground level—*<br>Including: tunnels for traffic, underground car parks, basements, lift wells. |
| **Suspended solids** | The insoluble solid matter suspended in wastewater under conditions normally found in the sewerage system that is separable by laboratory filtration. |
| **Total dissolved salts (TDS)** | A measure of salt content of water. Determined by calculation from the results of analysis for common ions (e.g. sodium, calcium, chloride). |
| **Total oil and grease (TOG)** | Mixture of organic compounds, including polar and non polar fats, oils, and grease that are measured using a common analytical test. |
| **Trade Waste** | The water-borne wastes from business, trade or manufacturing premises, other than:<br>a) waste that is a prohibited substance<br>b) human waste<br>c) stormwater,<br>and includes seepage water. |
| **Trade Waste Approval** | A trade waste control document issued by WBW allowing the discharge of trade waste into WBW's sewerage system. |
| **Trade waste compliance monitoring** | WBW Officers shall be permitted entry to the premises at all reasonable times and not obstructed for the purposes of waste compliance monitoring and collection of samples. Trade waste compliance monitoring may include, but is not limited to investigative (analytical), onsite (in-situ) and/or flow (hydraulic) measurement of influent, effluent or pre-treatment device for the purpose of:<br>• trade waste classification.<br>• charge calculation.<br>• auditing.<br>• pre-treatment equipment evaluation. |
| **Trade Waste Generator** | Means any person, company or body whose activity or business produces or has the potential to produce trade waste. |

| | |
|---|---|
| **Trade waste inspection** | WBW Officers shall be permitted entry to the premises at all reasonable times and not obstructed for the purposes of carrying out inspections, collection of samples or prevention of illegal discharge of trade waste. Inspections may include, but are not limited to the following:<br>• Checking that pre-treatment apparatus are regularly and adequately cleaned and maintained.<br>• Assessing work practices to ensure that they do not result in a breach of the *Trade Waste Approval* or legislation.<br>• Collecting trade waste samples.<br>• Checking chemical storage areas to ensure that they are adequately bunded and are not improperly connected to the sewerage system.<br>• Checking that there are no illegal stormwater connections to the trade waste system or the sewerage system and that the stormwater is excluded from entering the sewerage system.<br>• Checking that there are no illegal trade waste connections to the sewerage system or stormwater drainage and that there is no potential for trade waste to overflow improperly to the sewerage system, stormwater drainage or waterways. |
| **Trade Waste Officer** | A person holding appointment as a Trade Waste Officer of WBW. The term includes a person appointed in an acting capacity to carry out the duties of a Trade Waste Officer. |
| **Waste Hierarchy** | Management of waste to drive resource efficiency, in the following order of preference:·<br>• avoidance;<br>• minimisation;<br>• re-use;<br>• recycling;<br>• recovery of energy;<br>• treatment;<br>• disposal. |
| **Wide Bay Water (WBW)** | Telephone: 1300 79 49 29<br>Fax: 07 4125 5118<br>TradeWaste@frasercoast.qld.gov.au<br>Website: www.frasercoast.qld.gov.au |

# 3 Trade Waste

The *Water Supply (Safety and Reliability) Act, 2009* (Qld) defines trade waste, as water-borne waste from business, trade or manufacturing premises other than:

a) waste that is a prohibited substance,

b) human waste, or

c) stormwater, but includes seepage water.

In general terms, trade waste is liquid waste other than from domestic origins. It is wastewater that is generated from business activities.

Trade waste may have an organic strength and/or hydraulic load many times that of domestic sewage. WBW provides a sewerage system to transport and treat domestic sewage. WBW may accept trade waste into its sewerage system on application and for an additional charge.

Trade waste may contain a variety of toxic or harmful substances, such as heavy metals, organic solvents, oils and grease, explosive substances, gross solids and chlorinated organics. Municipal wastewater treatment plants are not designed to treat these substances, which may also pose a health and safety risk to WBW's sewerage workers as well as the sewerage system, treatment plants and recycling projects. Typical composition of domestic sewage and trade waste is:

| Contaminant | Typical Domestic Sewage | Typical Trade Waste (Upper Limit) |
|---|---|---|
| **Ammonia (mg/L)** | 50 | 100 |
| **Biochemical oxygen demand (mg/L)** | 300 | 600 |
| **Electrical conductivity (uS/cm)** | 800 | 6000 |
| **pH** | 6.5-8 | 6 - 10 |
| **Suspended solids (mg/L)** | 300 | 600 |
| **Temperature ($^{o}$C)** | 22 | 38 |
| **Total dissolved solids (mg/L)** | 500 | 4000 |
| **Total oil and grease (mg/L)** | 60 | 200 |

If you plan to discharge trade waste into the sewerage system, you must first apply for *Trade Waste Approval* from WBW. After consideration of your *Trade Waste Application,* WBW may issue a *Trade Waste Approval*.

The *Water Supply (Safety and Reliability) Act 2008* (Qld) states that it is an offence to discharge trade waste into a sewerage system without WBW's approval (section 193). This offence carries a significant maximum penalty.

## 3.1 Trade Waste Objectives

The *Work Health and Safety Act 2011* (Qld) (section 3) states that WBW must protect its workers against harm to their health, safety and welfare through the elimination or minimisation of risks arising from particular types of substances. WBW aims to eliminate or minimise risks arising from trade wastes to prevent harm or injury to its sewerage employees.

The *Environmental Protection Act, 1994* (Qld) (section 4) states that WBW must take all reasonable and practical measures to protect the environment. If trade waste was not controlled, a failure of the sewerage system, treatment process or reuse program would occur which could lead to pollution of the Fraser Coast's waterways including the Great Sandy Marine Park and agricultural land. WBW would be breaching environmental legislation and environmental conditions set down by the Queensland Government's environmental department if this were allowed to occur.

WBW prides itself on beneficially reusing the community's recycled water (treated wastewater) and biosolids (treated sewage sludge) for its hardwood tree plantations and other agricultural applications. All trade waste contaminants accumulate in either the recycled water or biosolids and if present in high concentrations will cause these valuable resources to be unusable.

Hence, WBW controls the discharge of trade waste to the sewerage system. The specific objectives of trade waste management are to:

- prevent harm or injury to WBW employees,
- safeguard public health and the environment,
- safeguard the sewerage system against damage, blockage or surcharging,
- exclude non-biodegradable and potentially harmful substances that may:
    - lead to non-compliance with the conditions of WBW's environmental conditions issued by the Queensland Department of Environment,
    - cause the sewage treatment process to fail,
    - render recycled water or sludges unacceptable for re-use or disposal,
    - cause any other detriment to the environment,
    - cause odours,
    - cause physical damage to infrastructure,
- equitably recover the cost of services to commerce and industry including the cost of conveyance, treatment and damage to the sewerage systems,
- provide operational data on the volume and composition of industrial effluent to assist in the operation of the sewerage system and the design of augmentations or new sewerage

systems,

- encourage waste minimisation and cleaner production, including waste prevention and recycling,
- promote water conservation, and
- assist WBW to meet its statutory obligations.

WBW will from time to time amend this Trade Waste Technical Specification and consult with relevant reference bodies to continually improve its trade waste management outcomes and safeguard public health and the environment. **Appendix A** contains examples of reference bodies and documents which WBW may consult.

## 3.2 Trade Waste Responsibilities

The Environmental Service Section of WBW is responsible for ensuring that WBW and commercial and industrial premises comply with trade waste legislation and requirements by issuing and enforcing *Trade Waste Approval*s.

The Property Owner and Trade Waste Generator are responsible for being aware of their trade waste requirements, ensuring that the premises has the appropriate *Trade Waste Approval* and for conforming to the conditions of the *Approval*.

**Examples of potential trade waste businesses are:**

| Commercial | Service | Industry |
|---|---|---|
| Air conditioning tower | Aged care facilities | Abattoir |
| Bakery (small) | Amusement park | Bakery (large) |
| Butcher | Automotive | Brewery |
| Coffee shop | Car/equipment wash | Chemical manufacturer |
| Confectionary manufacture | Commercial laundry | Dairy |
| Delicatessen | Commercial swimming pools | Food processor |
| Fast photo processing | Dry cleaners | Metal finisher |
| Fish monger | Education | Paper Printing |
| Restaurant | Hospital | Screen printing |
| Supermarket | Hotel/hospitality | Tannery |
| Take away food outlet | Laboratory | Textiles |
| | Laundromat | Waste recovery/treatment |
| | Medical Centre | |

The Property Owner and Trade Waste Generator are encouraged as early as possible to discuss trade waste matters with a Trade Waste Officer to streamline the trade waste assessment process where possible and avoid unnecessary expense and time delays, for example prior to:

- change in ownership or tenancy of a commercial or industrial premises,
- change in process, technology, trade waste discharge volume or strength at an existing premises that affects trade waste discharge,
- design of new commercial or industrial premises or extensions of existing commercial or industrial premises,
- generating trade waste at an existing premises without *Trade Waste Approval*, or
- processing of an application to strata title commercial or industrial premises.

The Property Owner and Trade Waste Generator are responsible for improving the quality and reducing the quantity of trade waste generated from their premises. This can be achieved through cleaner production techniques that minimise waste material and enhance the efficient use of water. Further information on cleaner production and how it can assist your business is provided by the Queensland Government ecoBiz program http://www.cciqecobiz.com.au/.

The Property Owner is responsible for authorising the generation of trade waste on their property. The Property Owner is issued trade waste charges through their property rates issued by the Fraser Coast Regional Council.

The Property Owner and/or the Trade Waste Generator are responsible for ensuring all town planning, building, plumbing and drainage, and trade waste approvals have been obtained.

Plumbing and drainage works must be designed by a Competent Person, approved by the Fraser Coast Regional Council prior to works being undertaken, and carried out by a Licensed Plumber.

The Fraser Coast Regional Council may not issue a Food Licence until the *Trade Waste Approval* has been issued.

The Fraser Coast Regional Council is responsible for plumbing and drainage plan approval and issuing *a Final Certificate*.

The plumbing and drainage designer and Licensed Plumber are responsible for ensuing plumbing and drainage works conform to legislation and this Trade Waste Technical Specification.
A prospective Property Owner or Trade Waste Generator should request a *Trade Waste Compliance/Investigation* prior to any change of ownership or tenancy to identify and understand any outstanding trade waste matters (www.frasercoast.qld.gov.au and enter "trade waste compliance" into the search option).

## 3.3 Trade Waste Compliance

The *Water Supply (Safety and Reliability) Act* states that WBW may issue a conditional *Trade Waste Approval* to discharge trade waste into its sewerage system (sections 180 and 181). This Act also states that it is an offence to discharge prohibited substances such as oil, grease or stormwater into the sewerage system (section 193). WBW manages conformity with this legislation through trade waste discharge *Approva*l conditions.

Access to the sewerage system to discharge trade waste is billed through the Fraser Coast Regional Council's (FCRC's) property rates process. The *Local Government Act 2009* (Qld), Chapter 4 provides the Council with the power to charge rates on land for a service, facility or activity that is supplied or undertaken by the Council (WBW is a CBU of the FCRC).

Commencement of trade waste discharge to the sewerage system is intent to comply with trade waste requirements and refusal to pay fees or charges does not negate responsibility to comply with trade waste requirements. Where a business has commenced operation trade

waste property charges will commence whether or not a completed *Application* has been received and a conditional *Trade Waste Approval* issued.

Where non-compliance is evident against a *Trade Waste Approval*, additional inspections will be conducted, to monitor and achieve compliance. Where continued non-compliance is evident, additional trade waste charges may be issued to recover costs of treating and administrating non-compliant trade waste discharges including Non-compliance Inspection Fee, and Equivalent Arrestor Charge. WBW may also serve a Show Cause Notice or prosecute any person who is in breach of their *Trade Waste Approval,* the *Water Supply (Safety and Reliability) Act*, or who refuses or neglects to comply with any direction or requirement of WBW under this legislation. Penalties are set out in this Act, and include substantial penalties. A list of legislation relevant to trade waste is contained in **Appendix B**.

However, WBW's preferred approach to trade waste compliance is to encourage voluntary conformity with trade waste requirements.

WBW's compliance activities may include:

- education and awareness-raising about trade waste requirements,
- inspection and compliance monitoring programs, including
  - working with other agencies, e.g. Fraser Coast Regional Council & Environmental Health Services,
- warning letters,
- additional trade waste charges,
- Show Cause Notice,
- Cancellation or suspension of Trade Waste Approval, and
- prosecution to deter further non-compliance.

## 3.4 Application for Trade Waste Approval

An *Application for Trade Waste Approval* form is available from:

| In person | Telephone/ Facsimile/Email | Download |
|---|---|---|
| Wide Bay Water<br>31 Ellengowan Street<br>Urangan Qld 4655 | Telephone: 1300 79 49 29<br>Fax: 07 4125 5118<br>Email: TradeWaste@frasercoast.qld.gov.au | www.frasercoast.qld.gov.au<br>and enter "trade waste" into the search option. |

An *Application for Trade Waste Approval* must contain the following information to ensure timely assessment:

- Trade Waste Generator (business proprietor) details and signature,
- site manager's details,
- trade waste process description,
- trade waste discharge quantity and quality characteristics where known or required,
- pre-treatment apparatus details,
- contractor responsible for managing the maintenance and cleaning of the pre-treatment apparatus,
- site plan clearly identifying:
  - fixtures,
  - capacity and location of pre-treatment apparatus, and
  - details of the businesses and shop numbers sharing the pre-treatment apparatus.

Trade waste fees and charges for the current financial year are available from WBW on request or www.frasercoast.qld.gov.au (enter "fees and charges" into search option).

When considering an *Application for Trade Waste Approval*, WBW must consider (as required by the *Water Supply (Safety and Reliability) Act*):

- consider the effect of the proposed discharge on any existing or potential re-use of waste water or sludge,
- be satisfied that having regard to the amount, type and strength of the proposed discharge, the discharge will not harm the sewerage or the health and safety of anyone working on the sewerage, and
- the sewage treatment plant to treat the discharge is capable of treating the discharge to an acceptable standard.

WBW will also consider:

- requirements for waste prevention, treatment and recycling before the release of trade waste to a sewer may be authorised,

- provisions about the effect of trade waste on—
    - the receiving environment into which the trade waste is released,
    - the end use of waters to which trade waste is being released,
    - the materials used to construct the local government's or entity's sewerage service,
    - the health and safety of people working on the sewerage service,
    - the treatment capabilities of wastewater treatment plants, and
- a process for carrying out regular reviews of the quantity and content of trade waste entering the sewerage service.

## 3.5 Renewal of Trade Waste Approval

A *Trade Waste Approval* is deemed to be renewed upon payment of the trade waste property charges (four (4) monthly) unless there has been significant (more than 5%) change in the intensity or scale of trade waste business, or the strength or volume of the trade waste discharge. In the case of significant change, a new *Trade Waste Approval* must be applied for.

## 3.6 Trade Waste Fees and Charges

All trade waste fees (e.g. Compliance Inspection/Search Fee, Non-compliance Inspection fee) are a fee for service and are payable through specified methods at the time of service.

All trade waste property charges are incorporated into the property's rates. Accounts for trade waste property charges are a debt due by the Property Owner. The amount owing, including interest, shall be recoverable in the same manner as general rates and shall until paid be a charge on the land, and in addition may be recovered as a debt from any subsequent owner.

Trade waste fees and charges for the current financial year are available from WBW on request or www.widebaywater.qld.gov.au (enter "fees and charges" into search option). These fees and charges are likely to increase each financial year relevant to WBW's operating and treatment costs.

### 3.6.1 Nil Application Fee

There is no fee to apply for a *Trade Waste Approval*. However, an *Application for Trade Waste Approval* form must be submitted to enable the trade waste approval process to proceed.

The *Trade Waste Approval* is issued to the Property Owner and Trade Waste Generator and is not transferable. Upon the sale of the business, the existing *Trade Waste Approval* ceases

and a new *Trade Waste Approval* must be applied for.

### 3.6.2 Trade Waste Property Charges

Trade waste businesses are characterised into three (3) trade waste categories for the purpose of approval, monitoring and charging. The trade waste categories are:

| Charge | Comments |
|---|---|
| **Category 1: Low strength and low volume (less than 500 kilolitres (kL) per annum)** | |
| Annual charge | Charged on the property. |
| **Category 2: Low strength and high volume (greater than 500 kL per annum)** | |
| Annual charge | Charged on the property. |
| Volumetric charge | Volumetric charge ($) = Qa – (pedestal allowance) – (standard industry allowance) where:<br>• Q is the volume (kL) measured through a WBW flow meter,<br>• a is the volumetric unit charge rate ($/kL). |
| **Category 3: High strength by negotiation** | |
| Annual charge | Charge on the property. |
| Volumetric and quality charge | Volumetric and quality charge ($) = Qa + (Qx1 n1 /1000) + (Qx2 n2 /1000) + ..... where<br>• Q is the volume (kL) measured through a WBW flow meter,<br>• a is the volumetric unit charge rate ($/kL),<br>• x1, x2, are the average concentrations for pollutant n1, n2 (mg/L).<br>Charges shall be made for BOD (or COD), suspended solids, oil/grease, and/or any other pollutant as determined by WBW not in compliance with the Sewer Admission Limits. |
| **NOTES**<br>In the event of a significant change in the strength or volume of trade waste discharge approved under Category 1 or Category 2, the trade waste may be treated as a Category 3 trade waste for the purposes of charging and monitoring until the trade waste meets the Sewer Admission Limits and/or Effluent Improvement Plan, or a new *Trade Waste Approval* is issued.<br>In the event that WBW's water meter has failed, WBW will estimate Q by averaging historical volumes and/or using an industry standard.<br>For trade waste calculations relating to a property which has an approved water meter installed (other than WBW supplied meter) please refer to section 3.8.2. | |

### 3.6.3 Compliance Inspection/Search Fee

Prospective Property Owners and Trade Waste Generators should request a *Trade Waste Compliance Inspection/Search* prior to any change of ownership or tenancy to identify and understand outstanding trade waste matters (www.frasercoast.qld.gov.au and enter "trade

waste compliance" into the search option). The prescribed fee is to accompany this request.

### 3.6.4 Non-Compliance Fees

Additional inspection and sample analysis fees may be charged if further inspections or sample analysis is required due to non-compliance with *Trade Waste Approval* conditions or the Sewer Admission Limits. These fees will be invoiced to the Trade Waste Generator / Property Owner on a sundry debtor basis.

WBW may recover the cost of repairing damage to the sewerage system from a person discharging non-compliant trade waste or a prohibited substance to the sewerage system. These costs will be invoiced to the Trade Waste Generator / Property Owner on a sundry debtor basis.

In the event of a significant increase in the strength or volume of a trade waste discharge approved under Category 1 or Category 2, the discharge may be treated as a Category 3 trade waste for the purposes of charging and monitoring until the trade waste meets the Sewer Admission Limits. The period of the charge will be the time period over which the *Trade Waste Approval* conditions or Sewer Admission Limit is considered to have been exceeded.

### 3.6.5 Equivalent Arrestor Charge

Where a pre-treatment apparatus (e.g. grease or oil arrestor, lint screen) is required by WBW to be installed, but cannot be installed due to site specific constraints, additional charges may apply to cover WBW's additional treatment costs (e.g. Equivalent Arrestor Charge).

Where a pre-treatment apparatus is required by WBW to be installed and the Property Owner and/or Trade Waste Generator do not install the required pre-treatment apparatus within the specific timeframe, additional charges may apply to cover WBW's additional treatment costs (e.g. Equivalent Arrestor Charge).

Charges for servicing, cleaning and pumping out of installed pre-treatment apparatus are issued by private contractor and are the responsibility of the Property Owner and/or Trade Waste Generator and do not relate to the property's trade waste fees and charges.

## 3.7 Trade Waste Approval

A *Trade Waste Approval* is a legal contract between the trade waste Property Owner and WBW. The Trade Waste Generator will be provided with a copy of the *Trade Waste Approval*.

If you intend to discharge trade waste into the sewerage system you must first apply for a *Trade Waste Approval*.

Given the complexity of many industrial wastes and the need to protect WBW's sewerage system, staff and the environment, acceptance of trade waste to the sewerage system will always be at the discretion of WBW.

### 3.7.1 Trade Waste Approval Conditions

A *Trade Waste Approval* sets out the conditions for discharging trade waste into the sewerage system.

*Trade Waste Approval* conditions may include the following:

- whether the waste must be treated before discharge (pre-treatment),
- maximum quantity of discharge,
- maximum permissible rate of discharge,
- permissible limits for the quality of discharge (Sewer Admission Limits),
- appropriate management of polluted areas,
- works that must be constructed to treat or store the waste,
- maintenance/service requirements of pre-treatment apparatus,
- location, number and frequency of trade waste samples required,
- waste tracking and monitoring,
- expiry date, and
- reporting requirements.

Note: The above conditions are only a guide and should not be regarded as a complete list. WBW will impose conditions deemed reasonable and necessary in the *Trade Waste Approval* in order to protect its sewerage assets, personnel and the environment.

Before applying for a *Trade Waste Approval*, the Property Owner and/or Trade Waste Generator must ensure that all prior approvals i.e. town planning, building and plumbing and drainage approvals have been obtained. A Food Licence may not be issued until the *Trade Waste Approval* has been issued.

### 3.7.2 Approval to Discharge Certain Items

Approval to discharge certain items as trade waste to the sewerage system may from time to time be issued by WBW.

As a guideline the following wastes may or may not be approved as trade waste:

| Type | Trade Waste Approval granted? | Additional fees apply? | Comments: |
|---|---|---|---|
| **Medical waste from medical, clinical and veterinary services** | No | - | From any hospital, clinic or surgery of a medical or veterinary facility, laboratory, convalescent or nursing home, or health transport facility. |
| **Infectious or hazardous wastes**<br>**Faeces and body fluids** | On application | Yes | Wastes require treatment to render them non-infectious or non-hazardous prior to discharge.<br>Demonstrated compliance with National Guidelines for Waste Management in the Health Industry, National Health and Medical Research Council, (latest edition). |
| **Toxic/hazardous substances** | No | - | Any potentially toxic or hazardous substances must be stored in areas where leaks, spillages, or overflows cannot drain by gravity or by an automated mechanical means to the sewerage system or the stormwater system. |
| **Liquid waste from recreational vehicles. e.g. galley and toilet wastes** | On application | Yes | Via approved "pump out" facilities at Ports and Marinas.<br>Trade waste discharged from these facilities must meet Sewer Admission Limits as set out in **Appendix C**. |
| **Stormwater** | No | - | Discharge of stormwater to the sewerage system is prohibited under the Water Supply (Safety and Reliability) Act. |
| **Commercial swimming pools backwash** | On application | Yes | The impact of swimming pool backwash on WBW's beneficial re-use schemes will be considered prior to *Trade Waste Approval* being granted.<br>Backwash systems with a pumping rate of greater than 500 L/min must install a holding tank which has a capacity of at least 115% of maximum backwash volume and must only discharge to the sewerage system when approved to do so. |
| **Landfill leachate** | On application | Yes | The impact of leachate on WBW's beneficial re-use schemes willbe considered prior to *Trade Waste Approval* being granted. |

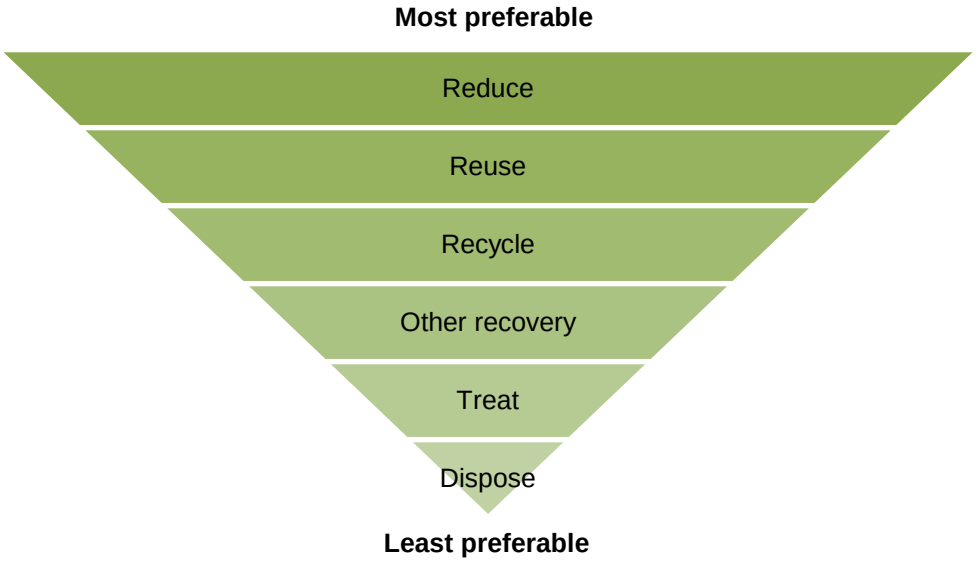
## 3.8 Trade Waste Measurement

Trade waste premises are categorised based on contaminant and hydraulic load placed on the sewerage system. Trade waste Property Owners and Trade Waste Generators are directly or indirectly charged for trade waste entering the sewerage system through their rates notice or property lease arrangements. Trade waste charges are based on volumetric and contaminant loads.

WBW prior to approving a premises to discharge trade waste to the sewerage system, will assess measures taken by the premises to prevent, treat and recycle its waste.

The most effective and preferred way to ensure compliance with volumetric and contaminant trade waste requirements is to reduce or reuse process effluent before disposal to the sewerage system as trade waste. This can be achieved through cleaner production techniques that minimise waste material and enhance the efficient use of water (refer to Section 4.6 Trade waste cleaner production tips). Further information on cleaner production and how it can assist your business is provided by the Queensland Government ecoBiz program (www.cciqecobiz.com.au).

The waste and resource management hierarchy is:



WBW will also assess the effect of trade waste on—

- the receiving environment into which the trade waste is released,
- the end use of waters to which trade waste is being released,
- the materials used to construct the local government's or entity's sewerage service,
- the health and safety of people working on the sewerage service, and
- the treatment capabilities of waste water treatment plants.

Section 3.8 below defines the volumetric and contaminant requirements of trade waste which WBW will consider accepting into its sewerage system. Trade waste which does not meet these requirements can have undesirable and costly impacts on WBW workers, the environment and sewerage system. For more detailed information regarding these undesirable impacts refer to **Appendix D**.

### 3.8.1 Benefits of Measuring Trade Waste

Trade waste volumes may be measured or calculated using the following methods:

- property water meter,
- process flow meter,
- electronic equipment measuring trade waste discharge,
- historic averaging, or
- industry standard.

Where multiple tenancies share the same water meter or same pre-treatment apparatus, it may be beneficial for each trade waste premises to separately meter their tenancy to ensure they only pay for trade waste generated from their tenancy.

This Plan does not allow for recalculation of previously determined charges using data obtained following the installation of an approved flow meter or trade waste discharge meter.

Property Owners are charged on a user pays system so it is important that they understand the relationship between water entering the property through the water meter and the amount of that water used in production and the wastewater discharged to WBW's sewerage system.

Trade waste charges are based on the volume and quality of trade waste entering the sewerage system. By accurately measuring how much trade waste you generate, the benefits to you are:

- accurate trade waste Category placement,

- accurate domestic and trade waste discharge factors an charges being applied,
- accountability for water used by individual tenancies in a multi-tenanted property,
- accountability of water used in a process and discharged to the sewerage system,
- opportunity to reduce water and trade waste charges,
- opportunity for the Trade Waste Generator to have a greater understanding and control of the water used in and discharged from their business,
- potential for water conservation and cleaner production auditing (water in and water out), and
- the potential to identify and improve on water conservation and cleaner production practices.

### 3.8.2 Approved Water Meters

All new trade waste processes may be required to fit an approved water meter to the water line of the trade waste generating process/es. For existing trade waste premises, fitting of a water meter to the water line of the trade waste generating process/es, will be required during alterations to the trade waste premises. The requirements of an approved water meter for the purpose of trade waste charging are:

| Element | Specification |
|---|---|
| Model | Elster V100 water meter (available in sizes from 15mm to 40mm for flow rates between 7.5l/h and 20m³/h). |
| Purpose | To measure hot and cold water servicing the trade waste generating process/es. |
| Location | At the closest practical and easily accessible point to the trade waste generating process/es. |
| Accessibility | A WBW officer is to be permitted entry to the water meter at all reasonable times during normal business hours. |
| Maintenance | All water meter maintenance issues must be addressed within 48 hours of identification. |

### 3.8.3 Approved Trade Waste Discharge Meters

Direct measurement of trade waste discharged to the sewerage system through an approved effluent discharge meter may be considered by WBW. Effluent discharge meters must provide a totalised volume and must be installed, serviced and calibrated according to the manufactures specifications and the *Trade Waste Approval*.

Trade waste effluent discharge meters must be safely accessible to WBW meter readers during normal business hours, and the meter and meter display must be located in accordance with accessibility requirements described in the *Queensland Plumbing and Wastewater Code*.

## 3.9 Sewer Admission Limits

WBW's Sewer Admission Limits are discharge parameter limits which must be complied with before trade waste will be approved to discharge to the sewerage system. Each trade waste category has different Sewer Admission Limits as defined in the below tables. The complete list of WBW's Sewer Admission Limits for Category 1 and 2 trade waste premises is contained in **Appendix C**. Category 3 trade waste premises' Sewer Admission Limits will be defined on application.

Sewer Admission Limits, unless otherwise specified in the *Trade Waste Approval*, are absolute maximums. The dilution of trade waste with water to achieve compliance with the Sewer Admission Limits is prohibited. WBW may amend these limits at any time.

It is the responsibility of the Trade Waste Generator and/or Property Owner to install, operate and maintain approved pre-treatment apparatus and processes to ensure the Sewer Admission Limits are not exceeded.

**Typical Sewer Admission Limits are:**

| Category 1 - Low strength/low volume discharge | |
|---|---|
| **Definition** | **Low strength and low volume (less than 500 kilolitres (kL) per annum)** |
| **Risk to WBW** | Individually or collectively have potential to cause major harm to WBW's sewerage system and the environment. |
| **Typical customers** | • take away food shops<br>• mechanical workshop<br>• bakery |
| **Charges** | Annual fee |
| **Sewer Admission Limits** | refer to Appendix C |
| **Category 2 - Low strength/high volume discharge** | |
| **Definition** | **Low strength and high volume (greater than 500 kL per annum)** |
| **Risk to WBW** | • Individually or collectively have potential to cause major harm to WBW's sewerage system and the environment.<br>• Significant hydraulic load on the sewerage system |
| **Typical customers** | • large take away or restaurant<br>• car wash<br>• commercial laundry<br>• hotel or convention complex |
| **Charges** | Annual fee plus volumetric charges |
| **Sewer Admission Limits** | refer to Appendix C |
| **Category 3 – High strength/any volume** | |
| **Definition** | **High strength by negotiation** |
| **Risk to WBW** | • Individually or collectively have potential to cause major harm to WBW's sewerage system and the environment.<br>• Significant contaminant and hydraulic load on the sewerage system |
| **Typical customers** | • brewery<br>• dairy product manufacturer<br>• paint manufacturer |
| **Charges** | • Annual fee plus volumetric and quality charges<br>• Charges are calculated based on the volume and the total mass of the pollutant discharged |
| **Sewer Admission Limits** | Specific sewer admission limits on application. |

### 3.9.1 Category 1 and 2 Determination of Discharge Quality

Quality measurements for Category 1 and 2 trade waste discharges are required for compliance monitoring. This will be undertaken by WBW as part of the inspection and monitoring program. The cost will be covered by property charges except where additional inspection and testing is required because of non-compliance.

### 3.9.2 Category 3 Determination of Discharge Quality

Quality measurements for Category 3 trade waste discharges are required for both charging and compliance purposes. For charging purposes, a system of monitoring by the Trade Waste Generator will be used to collect sufficient data to enable the average mass load for the designated charging period to be calculated. Where pre-treatment is required to meet Sewer Admission Limits for specified parameters, monitoring will be required for those parameters to confirm satisfactory pre-treatment.

Where additional inspection and testing is required to be done by WBW as a result of non-compliance, WBW will charge the Trade Waste Generator accordingly.

### 3.9.3 Effluent Improvement Plan

In the event of a significant change in the strength of a trade waste approved under Category 1 or Category 2, the trade waste may be treated as a Category 3 trade waste for the purposes of charging and monitoring until the trade waste meets the Sewer Admission Limits. To ensure all reasonable and practicable measures are taken to meet the Sewer Admission Limits, WBW will require an Effluent Improvement Plan to be prepared and approved by WBW within a specified timeframe.

The Effluent Improvement Program must include but is not limited to:

- description of trade waste:
  - processes generating trade waste,
  - quantity of trade waste, measured to the satisfaction of WBW,
  - analysis of trade waste from a NATA approved laboratory, to the satisfaction of WBW,
- description of waste reduction processes:
  - routine monitoring and reporting of trade waste quantity and quality, to the satisfaction of WBW,
  - trade waste reduction, recycling and pre-treatment options,
  - water conservation options, and
- program detailing specific actions, expected outcomes, timelines and milestones to implement the preferred trade waste reduction, recycling, pre-treatment and water conservation option/s to meet the Sewer Admission Limits.

## 3.10 Inspection and Monitoring

As a condition of your *Trade Waste Approval*, WBW Trade Waste Officers are to be permitted entry to the trade waste premises at all reasonable times and not obstructed for the purpose of carrying out inspections, compliance monitoring, collection of samples or prevention of unauthorised discharge to the sewerage system.

All trade waste premises will be inspected randomly, and samples of the trade waste may be taken as necessary.

Access to the pre-treatment apparatus and adjacent inspection outlets (IO's) or sample points must be maintained at all times.

Inspections may include, but are not limited to the following:

- checking that pre-treatment apparatus are regularly and adequately cleaned and maintained.
- assessing work practices to ensure that they do not result in a breach of the *Trade Waste Approval* or legislation.
- Collecting trade waste samples.
- checking chemical storage areas to ensure that they are adequately bunded and are not improperly connected to the sewerage system.
- checking that there are no illegal stormwater connections to the trade waste system or the sewerage system and that the stormwater is excluded from entering the sewerage system.
- checking that there are no illegal trade waste connections to the sewerage system or stormwater drainage and that there is no potential for trade waste to overflow improperly to the sewerage system, stormwater drainage or waterways.

Trade waste compliance monitoring may include, but is not limited to investigative (analytical), onsite (in-situ) and/or flow (hydraulic) measurement of influent, effluent or pre-treatment device for the purpose of:

- trade waste classification.
- charge calculation.
- auditing.
- pre-treatment equipment evaluation.

### 3.10.1 Inspection and Sampling Points

Category 1 and 2 trade waste pre-treatment apparatus must be fitted, unless otherwise approved, with sample points or inspection outlets (IOs) with 100 mm diameter brass access covers on the inlet and outlet of the apparatus. The sample points must be provided externally to the building at ground level.

Category 3 trade wastes must be discharged to WBW's sewerage system via an open channel inspection chamber and/or gauging facility. The inspection chamber and/or gauging facility must be located on the trade waste discharge line in an area which is accessible and safe at all reasonable times to WBW's Trade Waste Officers, to allow for sampling and/or monitoring equipment to be installed and operated.

All new trade waste processes may be required to install a trade waste sampling point at the sewerage connection junction to enable quality measurements.

# 4 Pre-Treatment Apparatus

A pre-treatment apparatus is used to reduce trade waste contaminant load before they are discharged into the sewerage system. Pre-treatment apparatus also:

- reduce probability of the municipal treatment plant receiving shock load,
- reduce capital and operational cost of the sewerage system,
- safeguard public health and the environment,
- prevent harm or injury to sewerage employees, and
- safeguard the sewerage system against damage, blockage or surcharging.

If the premises/lease ceases to operate, the owner or Trade Waste Generator shall give WBW verification that any pre-treatment apparatus is no longer being used and has been cleaned out and refilled with clean water, or decommissioned.

**Appendix E** lists typical pre-treatment apparatus and provides a brief explanation of each. **Appendix F** outlines typical trade waste business types, trade wastes produced and pre-treatment apparatus requirements.

## 4.1 Pump-Out Frequency

Pre-treatment apparatus are installed to assist the discharged trade waste to meet the Sewer Admission Limits. Pre-treatment apparatus must be installed, maintained and serviced in accordance with manufacture's specifications and routinely pumped out and cleaned. Servicing and cleaning of pre-treatment apparatus must be undertaken as often as stated in the *Trade Waste Approval* and pump-out must be undertaken by an appropriately licensed liquid waste or other contractor.

It is the responsibility of the Property Owner and/or Trade Waste Generator to install, operate and maintain approved pre-treatment apparatus and processes to ensure compliance with their *Trade Waste Approval* and the Sewer Admission Limits.

The *Trade Waste Approval* will specify the minimum pump-out frequency which depends on the characteristics and volume of wastewater produced. Compliance with the minimum pump-out period should:

- avoid non-compliance charges,
- prolong the life of the arrestor, and
- minimise risk of internal plumbing blockages and odours.

Upon completion of each and every pump-out, the arrestor must be refilled with clean potable

water to the working level of the arrestor to ensure the above. It is the responsibility of the Trade Waste Generator/Property Owner to ensure this is done.

Removal of trade waste from premises must only be carried out by a waste contractor approved under the Environment Protection Act 1994 and transported, stored, treated or disposed of in accordance with the requirements of the Environmental Protection Regulation 1998 and the Environmental Protection (Waste Management) Regulation 2000. All Contractors are required to maintain records and track their liquid waste as required by WBW.

## 4.2 Charges

Charges for servicing, cleaning and pumping out of pre-treatment apparatus are issued by private contractors and are the responsibility of the Trade Waste Generator and/or Property Owner, and do not relate to the property's trade waste fees and charges.

Equivalent arrestor charges may apply at sites where a business discharges trade waste to sewer without a pre-treatment device (refer section 3.6.5).

## 4.3 Liquid Waste Tracking System

Cleaning and maintenance of pre-treatment apparatus includes removal of accumulated waste and sludge from the apparatus by an approved liquid waste contractor.

Under Queensland's Waste Management Legislation (s35 (3) of the Environmental Protection (Waste Management) Regulation 2000) trade waste related liquid waste is required to be tracked and particular information submitted to the Queensland Department of Environment and Science.

WBW has introduced a Queensland Department of Environment and Science approved electronic system to track trade waste related liquid waste to reduce the risk of environmental incidents and additional pollutants entering the sewerage system. The Property Owner and Trade Waste Generator are required to fully participate in such a system as a condition of *Trade Waste Approval*. WBW will submit on the Property Owner's and Trade Waste Generator's behalves the required information to the Queensland Department of Environment and Science to ensure compliance.

## 4.4 Records

The Property Owner and/or Trade Waste Generator is responsible for maintaining their pre-treatment apparatus at the frequency prescribed by the *Trade Waste Approval* and for all associated costs.

Additionally, the Trade Waste Generator is required to keep records or collection dockets of dates of cleaning and maintenance carried out on the pre-treatment apparatus. These records must be kept on site for a period of not less than 12 months and be readily available for inspection by WBW when requested.

## 4.5 Minimum Requirements

The minimum pre-treatment requirements for some Category 1 and 2 trade waste premises are listed in **Appendix F.** Category 3 premises may need a combination of pre-treatment apparatus or specifically engineered equipment to achieve compliance with the *Trade Waste Approval*.

If the premises or business is sold, the new Property Owner or Trade Waste Generator shall notify WBW in writing within fourteen (14) days of any change to ensure that current pre-treatment apparatus is adequate. If it is not, an upgrade must be made at this time.

## 4.6 Trade Waste Cleaner Production Tips

Pre-treatment apparatus need regular servicing, pumping, cleaning and maintenance to ensure they are working effectively. The Property Owner or Trade Waste Generator is required at their own cost to provide, clean and maintain the pre-treatment apparatus.

- Supervise the servicing and pumping out of pre-treatment apparatus to ensure its walls are scrapped and cleaned, the apparatus is left in good condition and is re-filled with clean water,
- Use a water saving spray nozzle in rinsing sinks,
- Use screens or strainers in sinks and drains to prevent food scraps or workshop waste entering the pre-treatment apparatus,
- Do not put oil down the drain!,
- Put used oil, fats and grease in collection containers for recycling,
- Use only quick break detergents that emulsify grease and oil during cleaning and allow their quick release once in the pre-treatment apparatus,
- Keep cleaning chemicals in a designated area and handle carefully to avoid spills,
- Scrape or wipe oil and grease from equipment prior to washing,
- Remove or disconnect garbage grinders, and

- Use dry or waterless cleaning methods such as sweeping up spills rather than hosing.

## 4.7 Plumbing and Drainage Approval

Any plumbing and drainage work associated with installing any pre-treatment apparatus shall be in accordance with the *Plumbing and Drainage Act, 2002* (Qld), the *Standard Plumbing and Drainage Regulation, 2003* (Qld) and all referenced Australian Standards and Codes. The plumbing and drainage work must be approved by the FCRC and carried out by a Licensed Plumber. ***All plumbing works related to trade waste installations are Compliance Assessable under this legislation.***

## 4.8 Remote Servicing

Remote servicing pipes (pump out lines) should only be used where the arrestor cannot be located in an easily accessible position.

Remote servicing pipes must be 80mm in diameter and any changes in direction must be constructed with “sweep” or long radius type bends. The inlet (grease arrestor end) must terminate with a lockable 80mm ball valve and a 80mm “Cam Lock” fitting at 900mm above finished floor level as close as practical to the arrestor. The suction (truck) end must be located in an easily accessible position and terminate with a 80mm male “Cam Lock” fitting and cap. The pipe must be installed so as no liquid is retained in the pipe after pumping has ceased.

# 5 Grease Arrestors

A grease arrestor (grease trap) is an apparatus which allows wastewater to cool, and the grease and/or fat to separate from the wastewater before discharge as trade waste to sewerage system.

Grease arrestors must be of a design and capacity approved by WBW to adequately treat waste (consider temperature and frequency of wastewater discharge) before it is discharged to the sewerage system. A guideline for estimating peak hourly flow for use in sizing grease arrestors is contained in **Appendix G**. The final determination of adequate capacity of an arrestor will be determined by WBW.

Unless otherwise approved by WBW, all grease arrestors must:

- be installed to manufacture's specifications,
- not be less than 500 litres in capacity,
- not be more than 5,000 litres in capacity, unless approved by WBW
- be vented as specified by the manufacturer or if unspecified a 100mm diameter chamber vent located in a position where they will not have an adverse effect on an adjoining property, and fitted with odour control filters if it is likely that the vents will cause an odour issue,
- have gas tight lids,
- be fitted with sample points with 100mm diameter brass access covers on the inlet and outlet of the arrestor,
- have an outlet invert level of the arrestor at least 50mm below the inlet invert level,
- be as close as possible to the location of fixtures and fittings discharging waste into such arrestor,
- be easily accessible,
- be located externally to the building so that inspection, maintenance and or cleaning can be carried out without causing a nuisance,
- have a cold water tap with an approved Reduced Pressure Zone Device (RPZD) backflow prevention device installed within 5 meters. This tap is to allow for efficient cleaning and maintenance of the grease arrestor, and
- all concrete arrestors are to have an acid resistant internal protective coating applied prior to installation. This protective coating may be spray-on, epoxy or a liner made from durable material.

## 5.1 Minimum Pump-Out Frequency

The *Trade Waste Approval* will specify the minimum pump-out frequency which depends on the characteristics and volume of wastewater produced. A grease arrestor pump-out frequency will not exceed three (3) months unless otherwise stated in the *Trade Waste Approval* or directed by WBW.

Upon completion of each and every pump-out, the grease arrestor must be refilled with clean potable water to the working level of the arrestor to ensure the above. It is the responsibility of the Trade Waste Generator /property owner to ensure this is done.

## 5.2 Enzyme, Biological Cultures and Additives

Enzymes, bacterial cultures, odour control agents or pesticides in grease arrestors are prohibited in grease arrestors unless specifically approved by WBW. Conditional *Trade Waste Approval* may be given to allow the Trade Waste Generator to demonstrate to WBW that the product to be used does not adversely impact on the sewerage system.

# 6 Oil Arrestor

An oil arrestor (oil interceptor, oil water separator) is an apparatus designed to separate oil and solids from wastewater before discharge as trade waste to sewerage system. These systems are available in a variety of forms and are sized on an individual basis. They are commonly used for service stations, mechanical repairers, vehicle washing services and engine and parts washing processes. Each trade waste premises will be assessed on the nature of the oily wastewater to be treated, the proposed treatment method and the site location.

An oil arrestor required to pre-treat wastewater before discharge to the sewerage system must be of an approved design and capacity. Acceptable methods of oil arrestor installations include:

- coalescing plate/tube separators,
- membrane technology,
- dissolved air floatation (DAF),
- chemical precipitation,
- hydrocyclones,
- triple stage arrestors,
- other apparatus/methods.

Unless otherwise approved by WBW, all oil arrestors must:

- be installed to manufacture's specifications,
- be fitted with or have an access to a sample point on the inlet and outlet of the arrestor,
- be as close as possible to the location of fixtures and fittings discharging waste into such arrestor,
- be easily accessible,
- be located externally to the building so that inspection, maintenance and or cleaning can be carried out without causing a nuisance,
- have a cold water tap with an approved Reduced Pressure Zone Device (RPZD) backflow prevention device installed within 5 meters. This tap is to allow for efficient cleaning and maintenance of the oil arrestor,
- where required have a well/holding tank that:
    - holds a minimum volume of 500 litres,
    - has perforations no larger than 10mm in the screen or gross solids basket used to capture large solid items,
    - has a pump recommended by the manufacturer,
    - has a skimmer fitted to the pump suction line.

## 6.1 Coalescing Plate/Tube Separator

Maintenance and servicing of coalescing plate/tube separators must follow the manufacturer's specification to ensure that the equipment is regularly maintained, including:

- total pump-out and cleaning of plates and hopper, and
- removing sludge from the bottom of the hopper.

## 6.2 Hydrocyclone Separation System

Maintenance and servicing of hydrocyclone separation system must follow the manufacturer's specification to ensure that the equipment is regularly maintained, including:

- pump out and cleaning of the influent pit/holding tank,
- cleaning the floating suction apparatus and filter screen,
- emptying and cleaning the line filter,
- cleaning the "reject orifice", and
- cleaning and checking the pump level control apparatus.

## 6.3 Vertical Gravity Separation System

Maintenance and servicing of Vertical gravity separation system must follow the manufacturer's specification to ensure that the equipment is regularly maintained, including:

- breaking-up encrusted surface sludge in the top of the unit,
- removing any sludge attached to the continuous spiral pack, and
- removing settled sludge from the bottom of the unit.

## 6.4 Stormwater Diversion System

Discharge of stormwater to the sewerage system is prohibited under the Water Supply (Safety and Reliability) Act. The ingress of stromwater from an open external area to the sewerage system can cause severe operational and public health and safety problems to WBW and the property occupants. This may result in raw sewage overflows and surcharging at dwellings and commercial premises.

Potential options to exclude stormwater from open areas are:

1. Decommission the stormwater entry point to the sewerage system (eliminate the problem),
2. Provide adequate roofing and bunding for the external area:
    - roofs must overhang the bund by 25% of the open wall height, and
    - bunds must be adequate to exclude stormwater from entering the sewerage system, or
3. Provide a working first flush stormwater diversion system and adequate bunding:
    - Fraser Coast Regional Council plumbing approval,
    - WBW *Trade Waste Approval*,
    - bunds must be adequate to exclude stormwater from entering the sewerage system,

- three (3) monthly maintenance of diversion mechanisms and valves,
- a working first flush stormwater diversion system includes:

  For open areas greater than $50m^2$:

  - mechanism to pump to the sewerage system at an approved rate,
  - automatic mechanism to stop trade waste discharge after predetermined levels of rainfall,
  - tipping bucket rain gauge to determine rainfall levels,
  - the 'first flush' volume collected during wet weather being no greater than 10 litres per $m^2$ of open area (this volume may be collected and segregated for later discharge to sewerage system (see next point) and any additional run-off may be directed to the stormwater system),
  - mechanism to pump 'first flush' volume to the sewerage system via any necessary pre-treatment no sooner than one hour after the rain stops or as otherwise approved by WBW,
  - suitable metering apparatus to determine the volume of trade waste discharge,

  For open areas less than $50m^2$:

  - mechanism to pump to the sewerage system at a rate not exceeding 0.3 litres per second via a 500 litre first flush holding tank that prevents contaminated trade waste reaching the stormwater, and
  - mechanism to pump 'first flush' volume to the sewerage system via any necessary pre-treatment no sooner than one hour after the rain stops or as otherwise approved by WBW,
  - suitable metering apparatus to determine the volume of trade waste discharge.

## 6.5 Minimum Pump-Out Frequency

The *Trade Waste Approval* will specify the minimum pump-out frequency which depends on the characteristics and volume of wastewater produced. Oil arrestor and holding tank pump-out frequency will not exceed 12 months unless otherwise stated in the *Trade Waste Approval* or directed by WBW. The maintenance and servicing frequency must not exceed three (3) months or as otherwise stated in manufacture's maintenance requirements.

Upon completion of each and every pump-out, the oil arrestor must be refilled with clean water to the working level of the arrestor to ensure the above. It is the responsibility of the Trade Waste Generator to ensure this is done.

## 6.6 Cleaning Compounds

Use only quick break detergents and degreasers with the oil arrestor subject to the manufacturer's recommendations.

Quick break detergents and degreasers separate oil and water within several minutes into the wash down water during the cleaning process, the oil is then easily separated from the clean water in an oil arrestor.

Traditional aerosol and solvent-based degreasers are prohibited for use in oil arrestors unless specifically approved by WBW. Conditional *Trade Waste Approval* may be given to allow the Trade Waste Generator to demonstrate to WBW that the product to be used does not adversely impact on the sewerage system.
Aerosol and solvent-based degreasers create an oil-water suspension that lasts for several hours, allowing oil to pass through the oil arrestor and into the sewerage system. Try different products to find the one that suits your work. Ask your cleaning product supplier to specify a cleaner that allows the oil and water to separate soon after use. These products are known as "quick-break" detergents and degreasers.

When using quick break detergents and degreasers remember:

- milky trade waste from the pre-treatment equipment indicates the presence of emulsified oil. If this occurs, you may require a better quick- break product,
- when using a cleaning product only use the specified amount. Using more only wastes product and increases operating costs,
- a high pressure water cleaner will use less quick- break product and give a cleaner job, and
- do not use petrol, kerosene or diesel to clean parts. Flammable substances can cause fire and explosions in the sewerage system.

# 7 Other Arrestor Applications

Other arrestor installations may be used for trade waste treatment applications such as:

- silt separation,
- cooling,
- neutralization, and
- other specific applications approved by the WBW.

Each application will be assessed on the nature of the wastewater to be treated, the proposed treatment method and site location.

Each arrestor is to be fitted with an approved Reduced Pressure Zone Device (RPZD) backflow prevention device.

Where a pre-treatment apparatus at an existing premises is required by WBW, but cannot be installed due to site specific constraints, additional charges and conditions may apply.

# Trade Waste

## APPENDICIES

WIDE BAY water

A Business Unit of Fraser Coast Regional Council

water today water tomorrow

# Appendix A: Reference Documents and Bodies

Examples of reference documents and bodies which WBW may consult to continuously improve trade waste management outcomes include:

| Reference | Description |
|---|---|
| Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) and Australian and New Zealand Environment and Conservation Council (ANZECC) | ARMCANZ and ANZECC aim to achieve sustainable use of the nation's water resources<br>by protecting and enhancing their quality while maintaining economic and social<br>development.<br><br>Guidelines for Sewerage Systems - Acceptance of Trade Waste (Industrial Waste), 1994 |
| Australian Water Association (AWA) | AWA is Australia's leading membership association for water professionals and organisations. |
| The Water Services Association of Australia (WSAA) | WSAA is the peak body of the Australian urban water industry.<br><br>WSAA have authored:<br>• National Wastewater Source Management Guideline, July 2008.<br>o provides a preventive risk management framework for managing risks to the sewerage system and provides a process for establishing wastewater quality criteria relevant for wastewater collection, transfer, treatment, recycling and disposal. |
| Various water authorities and Council's | Are consulted to ensure consistency in WBW's trade waste management processes. |

# Appendix B: Trade Waste Legislation

List of legislation relevant to trade waste management:

| Legislation | Description |
|---|---|
| Environmental Protection Act 1994 | All reasonable and practicable measure must be undertaken to protect the environment. |
| Environmental Protection Regulation 2008 | WBW is licensed to operate its wastewater treatment plants under this Regulation. |
| Environmental Protection (Waste Management) Regulation 2000 | Arrestor waste is classified as industrial waste and FCRC/WBW may have particular requirements on storage and disposal of this waste. |
| Local Government Act 2009 | Authorises FCRC/WBW to apply charge rates on land for a service, facility or activity that is supplied or undertaken by the Council i.e. trade waste management. |
| Plumbing and Drainage Act 2002 | Provides FCRC/WBW officers with authority to inspect, investigate and serve notices in relation to trade waste installations. |
| Plumbing and Drainage Regulation 2003 | States the qualifications and practical experience and licence requirements for a person who performs regulated work or minor work. |
| Standard Plumbing and Drainage Regulation 2003 | Requires plumbing and drainage installations to comply with AS/NZS 3500.3:2003 (Plumbing and drainage—stormwater drainage); |
| Sustainable Planning Act 2009 | Requires all development (e.g. building work, plumbing or drainage work) to be ecologically sustainable. |
| Public Health Regulation 2005 | States requirements for recycled waste quality (i.e. recycling trade waste). |
| Waste Reduction and Recycling Act 2011 | Defines the waste and resource management hierarchy which lists the preferred order in which waste and resource management options should be considered—<br>a) AVOID unnecessary resource consumption;<br>b) REDUCE waste generation and disposal;<br>c) RE-USE waste resources without further manufacturing;<br>d) RECYCLE waste resources to make the same or different products;<br>e) RECOVER waste resources, including the recovery of energy;<br>f) TREAT waste before disposal, including reducing the hazardous nature of waste;<br>g) DISPOSE of waste only if there is no viable alternative. |
| Water Supply (Safety and Reliability) Act 2008 | Defines trade waste and seepage water approvals. |

Current copies of legislation are available from www.legislation.qld.gov.au

# Appendix C: Sewer Admission Limits

The upper Limits for the quality of trade waste discharged to the sewer for all categories are set out below. These sewer Admission Limits are subject to periodic review.

The total mass load and the capacity of the sewerage system to accept the load will be considered for each application. WBW may in some circumstances accept waste containing higher concentrations of these substances (Category 3). Additional trade waste charges will apply.

**GENERAL PROHIBITIONS**

| Parameter | Sewer Admission Limits (Upper Limit) |
|---|---|
| **Gross solids** | Non-faecal gross solids shall have a maximum linear dimension of less than 20mm and a quiescent settling volume of less than 3m/hr. |
| **Colour** | limited such as not to give any discernible colour in treatment works discharge. |
| **Odour** | not detectable in 1% dilution or causing an odour problem in WBW's sewerage system. |
| **Aluminium (as Al) (mg/L)** | 100 |
| **Ammonia (mg/L)** | 100 |
| **Biochemical Oxygen Demand (mg/L)** | 600 |
| **Chemical Oxygen Demand (mg/L)** | 1200 |
| **Chlorine (as Cl2) (mg/L)** | 10 |
| **Electrical conductivity (uS/cm)** | 6000 |
| **Iron (as Fe) (mg/L)** | 100 |
| **Manganese (as Mn) (mg/L)** | 100 |
| **pH** | 6 - 10 |
| **Sulphate (as SO4) (mg/L)** | 2000 |
| **Sulphite (as SO2) (mg/L)** | 100 |
| **Surfactants - Amnionic (MBAS) (mg/L)** | 500 |
| **Suspended solids (mg/L)** | 600 |
| **Temperature ($^{o}$C)** | 38 |
| **Total dissolved salts (mg/L)** | 4000 |
| **Total Kjeldahl (Total N) (mg/L)** | 50 |
| **Total oil and grease (mg/L)** | 200 |
| **Total Organic Carbon (TOC) (mg/L)** | 1200 |
| **Total Phophorus (as P)** | 15 |

## PROHIBITED DISCHARGES

The following are prohibited discharges:

- flammable/explosive substances,
- radioactive substances,
- pathological and infectious waste and Cytotoxic waste,
- genetically engineered organisms,
- stormwater, seepage water, subsoil water and surface water,
- solid or viscous substances in a quantity or size that can obstruct sewerage (e.g. ash, sand, mud, metal, plastics, paper and rags), and
- prohibited substances as listed in the Water Supply (Safety and Reliability) Act.

### SPECIFIC PROHIBITIONS - INORGANIC

| Parameter | Concentration mg/L |
|---|---|
| **Boron (B)** | 100 |
| **Bromine (Br2)** | 10 |
| **Cyanide (CN)** | 5 |
| **Fluoride (F)** | 30 |
| **Sulphide (S)** | 5 |

### SPECIFIC PROHIBITIONS - METAL

| Parameter | Maximum Concentration (mg/L) |
|---|---|
| **Arsenic (As)** | 5 |
| **Cadmium (Cd)** | 2 |
| **Chromium (Cr)**<br>**- Total**<br>**- Hexavalent** | 20 |
| **Cobalt (Co)** | 10 |
| **Copper (Cu)** | 10 |
| **Lead (Pb)** | 10 |
| **Mercury (Hg)** | 0.05 |
| **Nickel (Ni)** | 10 |
| **Selenium (Se)** | 5 |
| **Silver (Ag)** | 5 |
| **Tin (Sn)** | 10 |
| **Zinc (Zn)** | 10 |

## SPECIFIC PROHIBITIONS - ORGANIC

WBW may request specific demonstrable evidence based on degradability and toxicity concerning substances listed below.

This category covers all pesticides other than those specifically listed under organophosphate and organochlorine pesticides.

| Parameter | Maximum Concentration mg/L |
|---|---|
| **Formaldehyde (HCHO)** | 50 |
| **Phenolic compounds (as Phenol)** | 100 |
| **Pentachlorophenol** | 5 |
| **Chlorinated hydrocarbons** | 5 |
| **Halogenated Aromatic Hydrocarbons (HAHs)** | 0.002 |
| **Polychlorinated biphenyls (PCB)** | 0.002 |
| **Polybrominated biphenyls (PBB)** | 0.002 |
| **Polynuclear Aromatic Hydrocarbons (PAH)** | 5 |
| **Pesticides**<br>**General (insecticides/herbicides/fungicides)**<br>**• Organophosphates**<br>**• Organochlorines** | <br><br>1.0<br>0.1 |
| **Total Petroleum hydrocarbon** | 30 |

## OTHER

Any substance not listed in the above tables is a prohibited discharge and may not be discharged without prior written approval by WBW. WBW. may request specific demonstrable evidence based on degradability and toxicity for any substance when assessing acceptance to sewerage system.

# Appendix D: Common Trade Waste Parameters and Effects on the Sewerage System

| Parameter | Description | Effect on the sewerage system |
|---|---|---|
| Biochemical Oxygen Demand (BOD)<br><br>Also called Biological Oxygen Demand | The decrease in oxygen content in mg/L of a sample of water in the dark at a certain temperature over a certain period which is brought about by the bacterial breakdown of organic matter. Usually the decomposition has proceeded so far after 20 days that no further change occurs. The oxygen demand is measured after five days (BOD5), at which time 70% of the final value has usually been reached. (refer to the relevant method in the latest edition of Standard Methods for the Examination of Water and Wastewater [APHA-AWWA-WPCF]). It is used as a measure of the degree of water pollution. | High BOD can:<br>• overload the wastewater treatment plant,<br>• accelerate the generation of sulphides in the sewerage system causing odours and corrosion. |
| Chemical Oxygen Demand (COD) | The amount of oxygen required to oxidise all organic matter that is susceptible to oxidation by a strong chemical oxidant (refer to the relevant method in the latest edition of Standard Methods for the Examination of Water and Wastewater [APHA-AWWA-WPCF]). COD is expressed as the amount of oxygen consumed from a chemical oxidant in mg/L during a specific test. | High COD can:<br>• overload the wastewater treatment plant,<br>• accelerate the generation of sulphides in the sewerage system causing corrosion. |
| Chlorinated solvents | Chlorinated solvents include tetrachloroethene (PCE), trichloroethene (TCE), dichloroethene (DCE) and vinyl chloride. They are industrial chemicals used widely for metal cleaning and in production of thermoplastics, lacquers, perfumes and polyvinylchloride (PVC) products. | Chlorinated solvents can:<br>• affect the safety of sewerage personnel,<br>• be toxic to the biological wastewater treatment processes,<br>• be toxic to living organisms when untreated and discharged or reused in the environment,<br>• accumulate in recycled water and therefore limit its beneficial reuse. |
| Cyanide | Cyanide is any of a number of a group of salts that is a carbon atom triple bonded to a nitrogen atom. Cyanides are deadly poisons. | Cyanide can:<br>• produce toxic gases in the sewerage system,<br>• affect the safety of sewerage personnel,<br>• be toxic to the biological wastewater treatment processes,<br>• be toxic to living organisms when untreated and discharged or reused in the environment,<br>• accumulate in biosolids (treated wastewater sludge) and therefore limit its beneficial reuse. |

| | | |
|---|---|---|
| Electrical conductivity (EC) | A measure of salt content of water. The ability of water to carry an electric current, is used as an indicator of salinity and the concentration of dissolved salts in a waterbody and measured in siemens per metre (S/m) or micro siemens per centimetre µS/cm). | Salt can:<br>• be toxic to the biological wastewater treatment processes,<br>• accumulate in recycled water and therefore limit its beneficial reuse. |
| Flammable substances | A flammable substance is a substance that can burn. Some examples are petrol, butane, propane, jet fuel, and oil. Care should be taken when handling such substances. | Flammable substances can cause fires and explosions in the sewerage system. |
| Heavy Metals | Arsenic, beryllium, cadmium, chromium, lead, manganese, mercury, nickel, and selenium are some of the metals (called 'heavy' because of their high relative atomic mass) which persist in nature and can cause damage or death in animals, humans, and plants. | Heavy metals can:<br>• be toxic to the wastewater treatment processes,<br>• accumulate in biosolids (treated wastewater sludge) and therefore limit its beneficial reuse. |
| Nutrients | Chemical elements (nitrogen and phosphorus) that are essential to plant and animal nutrition however, elevated concentrations of nutrients can degrade water quality. | Nutrients can:<br>• cause nuisance algal growth in river systems. These algae consume the oxygen in waterways and therefore threaten fish and plant life,<br>• produce high levels of ammonia which may cause unsafe conditions in sewer mains and pumping stations,<br>• increase capital and operational costs of wastewater treatment plants. |
| Pesticides/ Herbicides | Pesticides and herbicides are used to prevent insects and weeds from destroying crops. | Pesticides/Herbicides can:<br>• affect the safety of sewerage personnel,<br>• be toxic to the biological wastewater treatment processes,<br>• be toxic to living organisms when untreated and discharged or reused in the environment,<br>• accumulate in biosolids (treated wastewater sludge) and therefore limit its beneficial reuse. |
| pH | A measure of the acidity or alkalinity of a solution, numerically equal to 7 for neutral solutions, increasing with increasing alkalinity and decreasing with increasing acidity. The pH scale commonly in use ranges from 0 to 14. | High and low pH can:<br><u>Low pH</u><br>• cause corrosion of sewer structures,<br>• cause the release of toxic hydrogen sulphide gas.<br><u>High pH</u><br>• damages the sewer,<br>• cause the release of toxic ammonia gas. |

| | | |
|---|---|---|
| Phenols | Generally an alcohol. More specifically, it is carbolic acid and is toxic. | Phenols can:<br>• affect the safety of sewerage personnel,<br>• be toxic to the biological wastewater treatment processes,<br>• be toxic to living organisms when untreated and discharged or reused in the environment,<br>• accumulate in recycled water and therefore limit its beneficial reuse. |
| Quantity (hydraulic load) | Extra hydraulic load placed on the sewerage system compared with domestic sewage. | Large quantities of trade waste can:<br>• cause flooding, overflow and surcharging of raw sewage into the environment, private property and buildings,<br>• create greater quantities of sewage to treat, reuse or dispose of, and<br>• increase sewerage system capital and operational cost. |
| Sulphur compounds | Sulphur once combined with oxygen forms sulfur dioxide and sulfur trioxide, which when dissolved in water make sulfurous acid and sulfuric acid, respectively. | Sulphur compounds can:<br>• be reduced to sulphides and then cause odour and corrosion problems,<br>• consume oxygen and may cause anaerobic conditions,<br>• result in the release of hydrogen sulphide gas and affect the safety of sewerage personnel. |
| Suspended solids | The insoluble solid matter suspended in wastewater under conditions normally found in sewers that is separable by laboratory filtration (refer to the relevant method in the latest edition of Standard Methods for the Examination of Water and Wastewater [APHA-AWWA-WPCF]). | High level of suspended solids can:<br>• can deteriorate mechanical equipment (pumps and valves) by abrasion,<br>• overload treatment units at the sewage treatment plant,<br>• cause blockages and sewage overflows in the drains of commercial and industrial properties. |
| Temperature | The tendency of a substance or an object to transfer heat to its surroundings. | High temperature trade waste can:<br>• cause fats and oils to remain in suspension passing through pre-treatment apparatus and cause sewer blockages,<br>• encourage volatile materials to be given off from the sewage into the atmosphere,<br>• increase the rates of reaction within sewer mains resulting in consumption of oxygen and increasing odours,<br>• cause damage to sewer structures. |

| | | |
|---|---|---|
| Total dissolved solids (TDS) | A measure of salt content of water. Determined by calculation from the results of analysis for common ions (e.g. sodium, calcium, chloride). | Salt can:<br>• reduce the effectiveness of biological wastewater treatment processes,<br>• accumulate in recycled water and therefore limit its beneficial reuse. |
| Total oil and grease (TOG) | Mixture of organic compounds, including polar and non polar fats, oils, and grease that are measured using a common analytical test. (refer to the relevant method in the latest edition of Standard Methods for the Examination of Water and Wastewater [APHA-AWWA-WPCF]). | Discharging of grease and oil to the sewer causes the formation of deposits of greasy solids in sewers thereby reducing the sewer capacity. These deposits of accumulated grease breakaway at times of high or low flow and will:<br>• accumulate in wet wells and pumping stations and cause blockages and failure of the pumps,<br>• deposit in bends of the sewer and cause restrictions and blockages,<br>• cause blockages and sewage overflows in the drains of commercial and industrial properties,<br>• accumulate on screens at treatment facilities causing blockages and repairs,<br>• reduce the efficiency of sewage treatment.<br>The presence of oil and grease in the sewerage system can also cause non-compliance of the wastewater treatment plant effluent with environmental licence conditions. |

# Appendix E: Description of Common Trade Waste Pre-treatment Apparatus

| Pre-treatment apparatus | Description |
|---|---|
| Arrestor | A trade waste pre-treatment apparatus designed and installed to separate and retain harmful and undesirable matter, from trade waste and permit less polluted trade wastes to discharge into the sewerage system. |
| Balancing Pit/Mixing Tank | An approved apparatus used to balance high strength or high volume discharge "peaks". The pit/tank prevents the "shock" loading of toxic substances being discharged to the sewerage system. Mixing of slightly acidic and alkaline wastes may bring the pH to a level acceptable for discharge. This can be useful where small volumes of waste may be mixed to produce an acceptable effluent. e.g. photographic processing. |
| Cooling Pit/Tank | An approved apparatus used to cool wastewater to 38°C or less prior to discharge to the sewerage system. The cooling pit/tank also prevents high temperature discharges being discharged directly to the sewerage system such as a boiler blowdown. |
| Dry Basket Arrestor (various types) | An apparatus which is fitted with a fixed screen and removable mesh basket to capture large solids and fibrous material. Various types of dry basket arrestors are available for particular industry processes such as laundry, food processing, and car/truck wash. All dry basket arrestors may be required to have a shut off valve mechanism that ensures there is no flow to the sewer when the basket is removed. |
| Grease Arrestor (grease trap) | A trade waste pre-treatment apparatus designed and installed to separate and retain harmful and undesirable matter, such as grease fat and silt, from trade waste and permit less polluted trade wastes to discharge into the sewerage system. Refer to **Appendix G** for guidelines on sizing of grease arrestors. |
| Lint screen | An apparatus used to separate lint from trade waste and permit less polluted trade wastes to discharge into the sewerage system. |
| Oil arrestor (oil interceptor, oil water separator) | A trade waste pre-treatment apparatus designed and installed to separate and retain harmful and undesirable matter, such as mineral oils, hydrocarbons and silt, from trade waste and permit less polluted trade wastes to discharge into the sewerage system. |
| Neutralising arrestor (pH Correction) | The pH correction of acidic or alkaline waste is required before discharge into the sewerage system or before treatment by biological means. pH correction is normally carried out in a tank or a pit, where mixing is provided. It can be achieved either in a batch or in a continuous flow system. The pH correction system must contain a pH control system to measure the pH of the solution and control the addition of a neutralising agent on demand to maintain the effluent within acceptable pH Limits. |
| Settling Tank | A tank used to settle solids prior to trade waste discharge. Tanks are available for under sink or in-ground application and are commonly used to collect waste from plaster sinks and soil labs. |
| Silt arrestor | An apparatus designed to intercept silt or sand and any other substance contained in trade waste. |
| Stormwater diversion system | Stormwater exclusion system. Refer to **section 6** for details.<br>Discharge of stormwater to the sewerage system is prohibited under the Water Supply (Safety and Reliability) Act. |

# Appendix F: Typical Trade Waste Business Types and Pre-treatment Apparatus

For guidelines for sizing of grease arrestors see **Appendix G**. Refer to section 5.0 for further requirements.

| Generator/Source | Characteristics of trade waste | Typical pre-treatment apparatus include: |
|---|---|---|
| Automotive/Engineering Industries: | | |
| **Wreckers** | Oil, grease, solids | **Oil arrestor** |
| **Detailing** | Grease, oil, solids, detergents | **Oil arrestor** |
| **Engine/gear box reconditioning (small operation)** | Lead, grease, oil, solids, detergents, oil, kerosen | **Oil arrestor** |
| **Equipment Hire Company** | Oil, grease, kerosene, solids, detergents | **Oil arrestor** |
| **Lawn Mower Repairs** | Oil, grease, grass, solids, detergents | **Oil arrestor** |
| **Mechanical Workshop** | Oil, grease, kerosene, solids, detergents | **Oil arrestor** |
| **Panel Beating/Spray Painting** | Suspended solids, oil and grease | **Oil arrestor** |
| Service Stations: | | |
| **- work shop only** | Oil and grease | **Oil arrestor** |
| **- covered forecourt** | Oil and grease | **Oil arrestor** |
| Car Wash Areas – Commercial Vehicle/Parts Wash | | |
| **- open areas** | Oil, grease, solids, rain | **Stormwater diversion apparatus, oil arrestor** |
| **Radiator Repair (small operation)** | Suspended solids, pH, toxic metals | **neutralising arrestor, oil arrestor** |
| Commercial Food Outlets: | | |
| **Hot bread, bakery, pies, cakes, pastries** | Flour products, grease, solids | **In-sink arrestor, in-floor basket arrestor, grease arrestor** |
| **Butcher, small, retail** | Grease (washing floors and utensils), solids | **In-sink arrestor, in-floor basket arrestor, grease arrestor** |
| **Chicken (fresh) retail Meat cutting and preparation** | Grease, solids | **In-sink arrestor, in-floor basket arrestor, grease arrestor** |
| **Fish - fresh (no cooking)** | Scales, fish wastes, solids | **In-sink and in-floor basket arrestors** |

| Generator/Source | Characteristics of trade waste | Typical pre-treatment apparatus include: |
|---|---|---|
| **Fish shop retail and cooking on site** | Scales, grease, solids | **In-sink arrestor, in-floor basket arrestor, grease arrestor** |
| **Caterer** | Grease, solids | **In-sink arrestor, in-floor basket arrestor, grease arrestor** |
| **Community Halls (Where applicable)** | Grease, solids | **In-sink arrestor, in-floor basket arrestor, grease arrestor** |
| **Coffee Shop/Hot Food Prepared** | Grease, solids | **In-sink arrestor, in-floor basket arrestor, grease arrestor** |
| **Take Away food outlets** | Grease, solids | **In-sink arrestor, in-floor basket arrestor, grease arrestor** |
| **Commercial Kitchen** | Grease, solids, hot water | **In-sink arrestor, in-floor basket arrestors, grease arrestor capacity to cool hot discharge water to less than 38$^0$C** |
| **Hospital Kitchens** | Grease, solids, hot water | **In-sink arrestor, in-floor basket arrestors, grease arrestor capacity to cool hot discharge water to less than 38$^0$C** |
| **Nursing Homes / kitchen** | Grease, solids, hot water | **In-sink arrestor, in-floor basket arrestors, grease arrestor capacity to cool hot discharge water to less than 38$^0$C** |
| **Restaurant/Cafe** | Grease, solids, hot water | **In-sink arrestor, in-floor basket arrestors, grease arrestor capacity to cool hot discharge water to less than 38$^0$C** |
| **Hotel/Motel/Clubs** | Grease, solids | **In-sink arrestor, in-floor basket arrestor, grease arrestor** |
| **Boarding Houses / kitchen** | Grease, solids | **In-sink arrestor, in-floor basket arrestor, grease arrestor** |
| **Ice Cream Parlour with cooking** | Grease, solids | **In-sink arrestor, in-floor basket arrestor, grease arrestor** |
| **Shopping Centres** | Grease, solids | **In-sink arrestor, in-floor basket arrestor, grease arrestor** |
| **Supermarkets** | Grease, solids, flour | **In-sink arrestor, in-floor basket arrestor, grease arrestor** |
| Other Commercial/Service Industries: | | |
| **Garbage Bin Cleaning** | Grease, solids | **Fixed screen over floor waste, if grease arrestor installed waste is to bypass arrestor** |

| Generator/Source | Characteristics of trade waste | Typical pre-treatment apparatus include: |
|---|---|---|
| Hobby Clubs | | |
| **- < 200L per day** | Solids | **No pre-treatment** |
| **- 200L-1000L per day** | Solids | **Plaster arrestor** |
| **- > 1000L per day** | Solids | **In-sink basket arrestors** |
| Dental/Medical/Veterinary Surgeries: | | |
| **- no plaster casts** | Solids | **In-sink basket arrestors** |
| **- plaster casts** | Solids | **Plaster arrestor** |
| **- x-rays** | Rinse water and spent solutions | **Silver recovery, neutralising arrestor** |
| Photographic waste | | |
| **- Photographic development**<br>**- x-rays** | Rinse water and spent solutions | **Silver recovery, neutralising arrestor** |
| School/Education | | |
| **- home science, tuck shops** | Grease, solids | **In-sink and in-floor basket arrestors, grease arrestor** |
| **- laboratory** | Acid/alkali, chemicals | **Silt and neutralising arrestor** |
| Other | | |
| **Commercial laundry** | Lint, hot water | **Lint screens 1mm mesh, cooling pit if temperature 38$^0$C** |
| **Kennels**<br>- **under cover**<br>- **open** | Solids, rain | **In-sink arrestor, in-floor basket arrestors, stormwater diversion apparatus** |
| **Pet grooming salon** | Hair, solids | **In-sink arrestor, in-floor basket arrestors, lint screens 1mm mesh** |
| **Commercial Swimming Pools** | Suspended solids, wastewater, chemicals, salt, large quantities of water | **Holding tank for regulating discharge to the sewerage system** |

# Appendix G: Guidelines for Sizing Grease Arrestors

The capacity of a grease arrestor may be calculated from the following capacity allowances for various fixtures and fittings in trade waste premises. Refer to section 5.0 for further requirements.

| Fixture/Fitting | Capacity (Litres) |
|---|---|
| **Bain Marie- water heated** | Working capacity of apparatus x 3 |
| **Cleaners sink** | 30 |
| **Dishwasher**<br>**- small (under bench)**<br>**- medium (upright)**<br>**- large (more than one outlet)**<br>**- tunnel feed** | <br>Manufacturer's peak flow rate x 3 or 150<br>Manufacturer's peak flow rate x 3 or 300<br>Manufacturer's peak flow rate x 3<br>Manufacturer's peak flow rate x 3<br>Manufacturer's peak flow rate x 3 |
| **Electric or gas steamer cooker** | 200 |
| **Hand basin** | 30 |
| **Noodle cooker** | 100 |
| **Potato Peeler**<br>**- large commercial application** | Manufacturer's peak flow rate x 3 |
| **Potato Peeler**<br>**- small kitchen application** | 100 |
| **Rotisserie rack** | 100 |
| **Sink – utility/pot per outlet connected separately to drain (depth greater than 300mm)** | 300 or capacity X3 |
| **Sink- double bowl (depth up to and including 300mm fixture pair connection)** | 300 or capacity X 3 |
| **Sink- single bowl (depth up to and including 300mm)** | 150 or capacity X3 |
| **Sink - domestic** | Capacity x 3 |
| **Combi oven** | 40L per rack |
| **Wok Burner Dry** | 30 litres per water arm |
| **Wok burner Wet** | flow rate x 3 |
| **Floorwastes** | 50 per 50m2 of floor area |
| **Tundish condensate** | 3 |
| **Tundish waste** | 10 |

29-31Ellengowan Street, Urangan
Hervey Bay Qld 4655
✆ 1300 79 49 29
07 4197 4455
✉ tradewaste@frasercoast.qld.gov.au
www.frasercoast.qld.gov.au/wide-bay-water

WIDE BAY water

A Business Unit of Fraser Coast Regional Council

water today water tomorrow