



# Trade Waste

# MANAGEMENT GUIDELINES

Version October 2011



WIDE BAY **water**  
CORPORATION

water today  water tomorrow

# TRADE WASTE MANAGEMENT GUIDELINES – DISCHARGING TRADE WASTE TO SEWERAGE SYSTEM

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## 1.0 INTRODUCTION

Wide Bay Water Corporation provides a sewerage system for the transport and treatment of domestic sewage. Trade waste is waterborne waste generated from businesses, trade or manufacturing premises which may also be accepted into the sewerage system for an additional charge.

Domestic sewerage consists mainly of water which, after treatment to reduce biodegradable material, suspended solids and nutrients, will be reused or discharged in accordance with Wide Bay Water's Environmental Authority requirements. However, trade waste may have an organic strength many times that of domestic sewage and may overload the treatment facility. Trade waste may contain a variety of exotic substances such as heavy metals, organic solvents and chlorinated organics which sewerage systems are not designed to treat and which may have an adverse impact on Wide Bay Water's reuse schemes. Trade waste substances may:

- cause sewerage system blockages;
- pose a serious risk to the safety and health of sewerage workers;
- damage and corrode the fabric of the sewerage system;
- inhibit biological treatment process;
- cause odours;
- accumulate in sludges;
- pass through the plant untreated resulting in environmental contamination; or
- render treated wastewater and biosolids unusable.

Wide Bay Water's basic policy is to accept biodegradable waste into the sewerage system provided that the system is of adequate capacity to effectively collect, transport and treat the waste.

Wide Bay Water may consider the acceptance of trade waste containing toxic or hazardous substances and non-degradable pollutants to sewerage system only after the waste has been pre-treated on site to ensure Sewer Admission Limits are not exceeded. This management guideline provides further details where a waste is deemed to be unsuitable for discharge to the sewerage system, an approval will not be issued and alternative arrangements for trade waste disposal will have to be made.

Wide Bay Water may amend the content of these Guidelines from time to time to further our commitment of environmental protection and sustainability.



## 2.0 DEFINITIONS

### **Authorised Agent**

Person or firm appointed by the Owner to act on their behalf. Notification of such appointment is to be lodged in writing with Wide Bay Water. Faecal matter and urine of human origin and liquid household wastes from water closet pans, sinks, baths, basins and similar fixtures designed for use in private dwellings.

### **Common Pre-treatment Devices**

Refer to Appendix 5 for definitions.

### **Common Trade Waste Sampling Parameter Definitions**

Refer to Appendix 3 for definitions.

### **Generator**

Any person, owner, occupier, company or body whose activity produces or has the potential to produce trade waste.

### **Owner**

The person, who for the time being is entitled to receive rent of any land, or who, if the same were let to a tenant at a rack rent, would be entitled to receive the rent thereof: The term includes any lessee from the crown and any superintendent, overseer, or manager for such lessee.

### **Premise**

Includes messuages, buildings, lands, easements and tenements of any tenure.

### **Trade Waste**

The waterborne wastes from any industry, business, trade or manufacturing premises, other than:

- a) waste that is a prohibited substance; or
- b) human waste; or
- c) stormwater (see Queensland Water Act 2000)

### **Trade Waste Approval**

Trade waste must not be discharged to Wide Bay Water's sewerage system unless a written approval has been issued. Trade waste must not be discharged to Wide Bay Water's sewerage system in contravention of the Trade Waste Approval.

### **Trade Waste Officer**

A person appointed by Wide Bay Water to oversee the disposal of trade waste in accordance with Wide Bay Water's Trade Waste Policy and Management Guidelines and provide advice on acceptable methods of disposal of trade waste. The term includes a person appointed in an acting capacity to carry out the duties of a Trade Waste Officer.

## 3.0 TRADE WASTE POLICY OBJECTIVES

The objectives of Wide Bay Water in controlling the discharge of trade waste to the sewerage system are:

- To safeguard public health and the environment.
- To prevent harm or injury to sewerage employees.
- To safeguard the sewerage system against damage, blockage or surcharging.
- To exclude non-biodegradable and potentially harmful substances that may:
  - lead to non-compliance with the conditions of Wide Bay Water's Environmental Authority issued by the Environmental Protection Agency;



- cause the sewerage treatment process to fail;
- render effluent or sludges unacceptable for re-use or disposal;
- cause any other detriment to the environment;
- cause odours;
- cause physical damage to infrastructure;
- To equitably recover the cost of services to commerce and industry including the cost of conveyance, treatment and damage to the sewerage systems.
- To 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.
- To encourage waste minimisation and cleaner production, including waste prevention and recycling.
- To promote water conservation.
- To assist Wide Bay Water meet its statutory obligations.

## 4.0 CONTROL OF TRADE WASTE/BREACHES OF RELEVANT ACTS AND BY-LAWS

These Management Guidelines are made pursuant to the Queensland Water Supply ( Safety And Reliability) Act 2008.

It is an offence under section 193 (Discharging particular materials) of the above act to discharge trade waste to the sewerage system without a Trade Waste Approval given under section 180 (Trade Waste Approvals) of the above act.

Any person wishing to discharge trade waste to the sewerage system shall apply to Wide Bay Water for Trade Waste Approval. This approval states the requirements, and conditions under which discharge is allowed.

It is illegal to discharge waste (including trade waste) other than uncontaminated stormwater to stormwater drainage.

A summary of legislation relevant to trade waste discharge to sewer is given in Appendix 1. This is not, nor is it intended to be, a complete listing of all legislation pertaining to the discharge of trade waste.

### 4.1 PENALTIES

Wide Bay Water may prosecute any person who commits a breach of the Queensland Water Supply ( Safety And Reliability) Act 2008 or the Environmental Protection Act 1994 and its subordinate legislation, or who refuses or neglects to comply with any direction or requirement of Wide Bay Water pursuant to the legislation. Penalties are set out in the legislation, and include substantial fines.

Wide Bay Water may recover the cost of repairing damage to the sewerage system from a person causing damage by discharging a prohibited substance or in excess of the Sewer Admission Limits.



## 5.0 APPLICATION PROCEDURES

The Owner or Authorised Agent and the trade waste Generator, shall apply to Wide Bay Water for a Trade Waste Approval if trade waste is generated or likely to be generated at the Premise. Applications should be lodged prior to commencement of trading and a plumbing and drainage clearance certificate must be issued before a Trade Waste Approval is issued. Should more than one trade waste Generator exist on a property, then a separate trade waste Application must be submitted for each Generator. Examples of appropriate times for lodging applications may include:

- during the processing of a Building or Plumbing Application for new premises or extensions of existing premise intended for industrial and/or commercial usage; or
- on the change in tenancy or ownership of such premise intended for industrial or commercial usage; or
- on the shop fit-outs of such premise intended for industrial or commercial usage; or
- during the processing of an application to strata title such premise intended for industrial or commercial usage; or
- prior to generating trade waste at existing premise without Trade Waste Approval; or
- where a change in process technology occurs that affects trade waste.

Application forms are available from:

**Wide Bay Water Corporation – Reception Desk**  
**29-31 Ellengowan St**  
**Urangan**  
**HERVEY BAY QLD 4655**

or will be forwarded on request by telephoning **1300 808 888** or by writing to:

**CEO - Wide Bay Water Corporation**  
**P O Box 5499**  
**Torquay**  
**HERVEY BAY QLD 4655**

Failure to provide all required information will result in delays in approvals.

Applications must include details of the proposed method of pre-treatment to be used to ensure waste meets Sewer Admission Limits.

Any plumbing and drainage work associated with installing any pre-treatment device shall be in accordance with the Plumbing and Drainage Act 2002, the Standard Plumbing and Drainage Code (AS/NZS 3500) and the Approved sewerage drainage plan for the premise. The plumbing and drainage work shall be carried out by a licensed plumber and drainer.

Where a waste is deemed to be unsuitable for discharge to the sewerage system, an approval will not be issued and alternative arrangements for disposal of wastes will have to be made.

## 6.0 APPROVALS

### 6.1 CATEGORY 1 AND 2 APPROVALS

Both the Owner or Authorised Agent and the trade waste Generator (where the Owner is not the trade waste Generator) of a premise from which waste classified as Category 1 or Category 2 is being discharged, shall be issued with a written approval which shall remain in force for the specified period unless cancelled sooner.





Trade Waste Approvals are not transferable. The Trade Waste Approval states the terms and conditions the Owner or duly Authorised Agent and the Generator must observe to discharge trade waste into Wide Bay Water's sewerage system. These include, but are not limited to:

- the location of the premise and nature of the occupancy;
- the type and composition of trade waste that may be discharged (Sewer Admission Limits);
- the quantity of trade waste that may be discharged;
- the rate of discharge, including maximum rate of discharge;
- the time when trade waste may be discharged;
- the period for which trade waste may be discharged;
- the method for the estimation or measurement of discharge volume;
- provisions for measurement and sampling of discharge prior to entry to sewer;
- details of any pre-treatment required;
- conditions for maintenance of and removal of waste from pre-treatment equipment, including the frequency of cleaning and the waste transporter to be used;
- records to be kept concerning the cleaning and maintenance of pre-treatment equipment;
- the powers of Wide Bay Water to enter premises in relation to any matter with regard to trade waste control;
- penalties for non compliance;
- any other conditions considered by Wide Bay Water to be appropriate.

## 6.2 CATEGORY 3 APPROVALS

Both the Owner or Authorised Agent and the trade waste Generator, (where the Owner is not the Generator), of a premise from which waste classified as Category 3 is being discharged shall be required to negotiate a written approval with Wide Bay Water. The approval will remain in force until negotiated or cancelled.

Trade Waste Approvals are not transferable.

The Trade Waste Approval states the terms and conditions the Owner or Authorised Agent and the Generator must observe to discharge trade waste to Wide Bay Water's sewerage system. These include but are not limited to:

- the location of the premises and nature of the occupancy;
- quality of waste that may be discharged (Sewer Admission Limits);
- quantity of waste that may be discharged;
- rate of discharge - maximum instantaneous, maximum daily;
- hours of day, days of week discharge is allowed;
- details of self regulation monitoring program;
- sampling point;
- frequency of sampling;
- method of sample collection and type of sample to be collected;
- analyses required;
- methods of analyses;
- laboratory to be used;





- data transfer and availability to Wide Bay Water;
- type, design and location of flow measuring equipment and requirements for calibration;
- methods to be used for estimation of data lost due to failure of sampling program or flow measurement instrumentation;
- provision for measurement and sampling of discharge priority to entry to sewer;
- pre-treatment processes to be used;
- conditions for maintenance of and removal of waste from treatment equipment;
- records to be kept concerning the cleaning and maintenance of treatment equipment and disposal of waste;
- the powers of Wide Bay Water to enter premises in relation to any matter with regard to trade waste control;
- the obligation of the Owner or Authorised Agent and the Generator concerning any variations to operation or treatment processes that may affect discharge quantity or quality including change of business type;
- the obligation of the Owner or Authorised Agent and the Generator on termination of approval by expiry, discontinuance of discharges, change of ownership or occupier, or non compliance with approval conditions;
- the obligation of the Owner or Authorised Agent and the Generator with respect to payment of charges, fees and penalties;
- penalties for non compliance;
- any other conditions relevant to the particular discharge as agreed to.

### 6.3 CHANGE TO THE PREMISE

The Owner of the premise subject to a Trade Waste Approval shall notify Wide Bay Water in writing within 14 days of any change to the premises that affects the Trade Waste Approval.

On cessation of business, the Owner of the premise shall also give Wide Bay Water verification that any pre-treatment apparatus, no longer being used, has been cleaned out or serviced.

On sale of the business, the Trade Waste Approval holder shall notify Wide Bay Water to ensure that current pre-treatment device's adequately treat the trade waste discharge. If they do not, upgrades must be made at this time.

### 6.4 TERMINATION OF APPROVAL

A failure by the Owner/Authorised Agent and/or Generator to comply with conditions of their approval or the requirements of any written notices issued pursuant to this approval may result in the approval being terminated by Wide Bay Water.

Terms and conditions of the approval in respect of any matter occurring before the termination, including the payment of charges owing, shall continue to have force and effect after the termination of the approval.

## 7.0 DISCHARGE CATEGORIES

All trade waste accepted to the sewerage system will be classified according to the following four categories for the purposes of approval, control and charging:



## Category 0 Negligible or Potential Trade Waste Discharge

Includes sandwich shop, salad bar, coffee shop with no hot food and / or a premise with infrequent discharge to sewerage system (e.g. community clubs). Judgement of the classification of businesses in this category is at Wide Bay Water's discretion and a pretreatment device may still be required. Category 0 premise must use less than 300kL of water per annum.

## Category 1 Low strength/low volume discharges

Parameter	Requirement
Total Oil/Grease	<200mg/L
BOD5	< 300mg/L
Suspended Solids	< 300mg/L
COD	< 600mg/L
pH	between 6.0 - 10.0
Volume	< 500kL/annum

- Charge - flat fee
- Also includes Category 0 premises using more than 300kL/annum

## Category 2 Low strength/high volume discharges:

Parameter	Requirement
Total Oil/Grease	<200mg/L
BOD5	< 300mg/L
Suspended Solids	< 300mg/L
COD	< 600mg/L
pH	between 6.0 - 10.0
Volume	> 500kL/annum

- Charge – Flat fee plus Quantity charge on total annual flow

## Category 3 High strength discharges:

Parameter	Requirement
Total Oil/Grease	<200mg/L
BOD5	> 300mg/L
Suspended Solids	> 300mg/L
COD	> 600mg/L
pH	between 6.0 - 10.0
Volume	Any volume

- Charge – Flat fee plus Quantity and Quality charges on total annual load

Acceptance of waste under any category is conditional on the trade waste meeting the Sewer Admission Limits (see Appendix 2) unless otherwise specified in the Trade Waste Approval.

It is the responsibility of the Owner/Authorised Agent/Generator to install, operate and maintain best practice pre-treatment devices or processes to ensure Sewer Admission Limits are not exceeded.



In the event of a significant change in the strength or volume of a waste Approved under Category 1 or Category 2, the waste will be treated as a Category 3 waste for the purposes of charging and monitoring.

For a list of example Category 1 and 2 premises, and the common pre-treatment requirements, refer to Appendix 6. For a list of example Category 3 premises, refer to Appendix 7 of the Wide Bay Water Trade Waste Guidelines.

## 8.0 SEWER ADMISSION LIMITS

Any waste discharged to Wide Bay Water's sewerage system shall at all times comply with the Sewer Admission Limits as set out in Appendix 2 unless otherwise specified in the approval. These Limits are subject to periodic review. Untreated wastes can have undesirable impacts on the sewerage system. For more detailed information regarding these undesirable impacts refer to Appendix 3.

Wide Bay Water may, at its discretion, negotiate with a Generator to accept the discharge of Trade Waste to the sewerage system that exceeds the general limit parameters of the Sewer Admission Limits. Additional charges will apply for such parameters.

The Sewer Admission Limits, unless otherwise specified in the approval, are absolute maximums.

The dilution of trade waste with water to achieve compliance with the Sewer Admission Limits is prohibited.

The trade waste stream and domestic waste stream should, where ever practicable, discharge separately to the sewerage system. Where there is a common discharge pipe, allowance for the domestic component will be made to estimate the actual trade waste component strength.

## 8.1 EFFLUENT IMPROVEMENT PROGRAMS

The Wide Bay Water Corporation (WBWC) Trade Waste Management Guidelines and Trade Waste Pre-treatment Guidelines requires trade waste generators to install, operate and maintain "best practice" pre-treatment devices or processes to ensure Sewer Admission Limits (SAL) are not exceeded. For all trade waste categories WBWC requires the installation of properly sized, approved pre-treatment devices together with an acceptable maintenance program.

WBWC may, at its discretion, negotiate an agreement with a trade waste generator for the acceptance of waste water that exceeds the SAL for certain "General Limit" parameters. Additional charges shall apply for such parameters. All other "Specific Prohibitions" parameters that exceed the SAL will not be accepted, immediate action is required to improve the quality of discharge to sewer.

Where such an agreement is made or EIP is requested, WBWC will require the trade waste generator to prepare, to the satisfaction of WBWC, an Effluent Improvement Program.

### **This program must include:**

- A description of the effluent quantity and quality;
- Provision for monitoring and reporting waste quantity and quality;
- An examination of waste prevention and recycling options;
- An examination of options for the conservation of water;
- A program involving the development of waste reduction and pre-treatment aimed at reducing contaminant levels over a period of not more than 18 months to the prescribed admission limits. A detailed action program must be provided, including expected outcomes, timelines and milestones.



## 9.0 TRADE WASTE CHARGES AND FEES

Charges to be levied in respect of trade waste will be determined by a Wide Bay Water resolution passed before or at the same time as the Budget in any financial year.

Trade waste charges and fees for the current financial year are available from Wide Bay Water on request.

Accounts for trade waste discharge may be issued annually, half yearly or quarterly. Accounts for the trade waste charges shall be a debt due by the Owner of the premises, and if not paid within the prescribed time after service of the demand, shall thereafter bear interest at such rate per centum per annum as shall be fixed by Fraser Coast Regional Council by resolution. 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.

### 9.1 TRADE WASTE CHARGES

Trade waste is divided into four categories for charging purposes.

Charges are based on actual quality and quantity of discharge for the period, not on figures described in the approval.

Non-compliance charges will be applied for premises that fail to meet the Sewer Admission Limits.

Charges will be levied as follows:

- Category 0:** No charge.
- Category 1:** Flat fee to cover administration, scheduled inspections and compliance testing every three years.
- Category 2:** If more than one generator is present at a Category 2 property each individual business will receive a Category 1 flat fee charge plus, the property will receive a Category 2 flat fee charge plus a quantity charge.
- Flat fee to cover administration, scheduled inspections and compliance testing once per year, plus Quantity charge on total annual volume of trade waste discharged to the sewerage system to be calculated as follows:
- $C = Qk$  where C is the annual charge(\$)  
Q is the annual volume(kL)  
k is the unit charge rate (\$/kL).
- The unit charge, k, is based on the cost of providing and maintaining the sewerage system for the total annual wastewater flow to the sewerage treatment plant(s) including administration, scheduled inspections and compliance testing for trade waste control.
- Category 3:** Flat fee to cover administration, scheduled inspections and compliance testing. A Quantity and Quality charge on the total annual discharge of trade waste to the sewer to be calculated as follows:
- $C = Qa + (Qx_1 n_1 / 1000) + \dots$  where
- C is the total annual charge (\$)  
Q is the total annual discharge volume (kL)  
a is the unit charge for volume (\$/kL)  
 $x_1, x_2$  are the average concentrations for pollutant N1, N2 (mg/L)



$n_1, n_2$  are the unit charges for pollutants  $N_1, N_2$  (\$/Kg)

$N_1, N_2$  are the pollutant to be charged for.

Charges shall be made for BOD<sub>5</sub>, (or COD), suspended solids, oil/grease, and any other pollutant as determined by Wide Bay Water Corporation.

## 9.2 INSPECTION & ANALYSIS FEES

The flat fees allow for routine inspections and sampling/testing of the trade waste by Wide Bay Water.

Additional inspection and testing fees, to be paid by the Owner/Authorised Agent or Generator on a sundry debtor basis, shall apply in all categories where more than the number of Wide Bay Water inspections and quality compliance tests and covered by the minimum fee are required because of non compliance.

Samples for analysis may be collected as part of a contractual arrangement with the holder of a Trade Waste Approval. The full cost of all analytical fees shall be paid by the Owner/Authorised Agent or Generator.

## 9.3 APPLICATION FEES

Application for an approval to discharge under Categories 1, 2 and 3 shall be charged an application fee to cover the cost of processing the application, inspecting the premise and drawing up the approval.

This fee must accompany the application.

## 9.4 SEPTAGE & OTHER LIQUID WASTE FEES

Liquid waste transporters disposing of septic, portable toilet or other Approved liquid waste to the sewerage system or sewage treatment plant under Approved conditions shall be charged on a calculated volume basis (\$/KL) which takes account of both volume and strength of waste. This fee for the current financial year is available from Wide Bay Water on request.

## 9.5 ADDITIONAL CHARGE

Where Wide Bay Water agrees to accept to the sewerage system waste which has properties in excess of those defined in the Sewer Admission Limits, an additional charge will apply for each agreed non-complying parameter. The formula for calculation shall be:

Charge = (Actual/approved)  $d$  x charge rate (\$/kg) x kg pollutant

where:

- $D$  is a constant to be determined by Wide Bay Water Corporation in its annual budget
- The minimum ratio for (actual/approved) is 1.0; and
- Approved means the Sewer Admission Limit value or the other negotiated value defined in the Trade Waste Approval.

The period of the charge will be the time period over which the limit is considered to have been exceeded, based on sampling frequency.

Exceeding the Approved limit is an offence under the Water Supply (Safety And Reliability) Act 2008.

In the event that a pre-treatment device is not adequately cleaned and/or maintained or the Sewer Admission Limits are breached, any damage (e.g. sewerage system blockages, corrosion, sewerage treatment plant malfunction) caused by this neglect on Wide Bay Water's infrastructure will be charged to the trade waste premise. Pre-treatment device cleaning and maintenance fees and charges are issued



by an Authorised contractor and are not included in the property trade waste/wastewater fees and charges.

## 10.0 INSPECTION & MONITORING

Wide Bay Water Officers shall be permitted entry to the premise at all reasonable times and not obstructed for the purpose of carrying out inspections, collection of samples or prevention of illegal discharge of trade waste.

### 10.1 INSPECTION & MONITORING

For the purpose of monitoring and auditing the conditions of Trade Waste Approval, Wide Bay Water may inspect the premise the subject of Trade Waste Approval. The frequency of inspections depends on the category the premise falls into, and can generally be considered to be:

- Category 1 – Inspections at least once a year
- Category 2 – Inspections at least twice a year
- Category 3 – Inspections at least twice a year

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

- Checking chemical storage areas to ensure that they are properly bunded and are not improperly connected to the sewerage system; and
- 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; and
- 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; and
- Checking that pre-treatment facilities are regularly and properly serviced and standby equipment is available where necessary; and
- Assessing work practices to ensure that they do not result in a breach of the Trade Waste Approval or legislation;
- Collecting wastewater samples for:
  - waste type reclassification
  - account calculation
  - audit process
  - pre-treatment equipment evaluation

### 10.2 INSPECTION & SAMPLING POINTS

Grease arrestor trap installations discharging trade waste under Category 1 or Category 2 Approved conditions shall be fitted with sample points or inspection outlets (IO's) with 100 mm diameter brass access covers on the inlet and outlet of the arrestor. The sample points must be provided externally to the building at ground level.

Category 3 wastes shall be discharged to Wide Bay Water's sewerage system via an open channel inspection chamber and/or gauging facility. The inspection chamber and/or gauging facility shall be



located on the trade waste discharge line in an area which is accessible at all times by Wide Bay Water's Officers, thus allowing for sampling and/or monitoring equipment to be installed and operated.

For new Category 2 and 3 installations, the trade waste discharge line shall be separate from the domestic waste discharge line. For existing installations retrofitting is not required except where it may be done during any proposed upgrading or alterations to the installation.

## **11.0 DETERMINATION OF DISCHARGE QUANTITY**

### **11.1 CATEGORY 1 & 2**

The volume of trade waste discharged shall be estimated from total metered water consumption, less an allowance for domestic waste based on 100 kL/annum per pedestal and an allowance for water consumed on the property.

Investigations have established a basis for estimation of the proportion of water consumption discharged as trade waste by various types of trade and manufacturing processes. These will form the basis of the initial fraction applied when an approval is issued. Where there is no fraction available, 100% discharge will be assumed.

Where individual Generators have information, which would indicate a departure from these bases, application may be made for reconstruction of the fraction used.

High volume Category 2 Generators may, and are encouraged to, install an Approved flow measurement device calibrated as specified in the approval conditions.

### **11.2 CATEGORY 3**

Volume of trade waste discharged to the sewerage system shall be measured by an Approved flow measurement device calibrated as specified in the approval. This should be located on the trade waste discharge stream, which should be separate from the domestic waste discharge stream.

Where the flow measured includes domestic waste, an allowance of 100 kL/annum per pedestal shall be made. Generators exempt from installing a flow measurement device shall have the volume of discharge estimated.

## **12.0 DETERMINATION OF DISCHARGE QUALITY**

### **12.1 CATEGORY 1 & 2**

Quality measurements for Category 1 and 2 discharges are required for compliance monitoring only. This shall be done by Wide Bay Water as part of the random Inspection and Monitoring program. The cost shall be covered by the annual trade waste flat fee except where additional inspection and testing is required because of non compliance.

### **12.2 CATEGORY 3**

Quality measurements for Category 3 discharges are required for both charging and compliance purposes. For charging purposes, a system of monitoring by the discharger shall be used to collect sufficient data to enable the average mass load for the designated charging period to be calculated. Where pre-treated 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 Wide Bay Water as a result of non-compliance, Wide Bay Water shall charge the Owner for this.





## 13.0 INSTALLATION OF PRE-TREATMENT DEVICES

Where arrestors are used to pre-treat waste before discharge to sewer they will be of a design and capacity Approved by Wide Bay Water. Appendix 4 outlines different methods for estimating the size of grease arrestors. The final determination of adequate capacity will be done by a Wide Bay Water Officer. Appendix 5 lists common pre-treatment devices and gives a brief explanation of each.

### 13.1 SPECIFICATIONS FOR GREASE ARRESTORS

In a situation where an arrestor is required for pre-treatment but cannot be installed because of specific site constraints, additional charges will apply.

Where an arrestor is required to pre-treat waste before its discharge to the sewerage system the arrestor shall be of an approved design and capacity.

Unless otherwise Approved, all arrestors shall:

- Not be less than 550litres in capacity; and
- Not be more than 2000litres in capacity, and
- Be vented with a 100mm diameter vent; and
- Have gas tight lids; and
- Be fitted with sample points with 100mm diameter brass access covers on the inlet and outlet of the arrestor; and
- Have a capacity below the invert of the outlet of the arrestor at least twice that total capacity of all the appliances and fixtures connected to the arrestor or, a larger capacity if required by Wide Bay Water; and
- Have a distance from the top of the arrestor to the outlet that is at least half the depth of the arrestor below the outlet invert; and
- Have an outlet invert level of the arrestor at least 50mm below the inlet invert level; and
- .
- Be as close as possible to the location, and fixtures/fittings discharging waste into such trap; and,
- Be easily accessible; and,
- Be located externally to the building so that inspection, maintenance and or cleaning can be carried out without causing a nuisance; and
- Have a cold water tap installed within 5 meters with protection by an approved backflow prevention device. This tap is to allow for efficient cleaning and maintenance of the grease arrestor: and
- Be protected by an internal acid resistant protective coating that is installed during the manufacture of all concrete arrestors and prior to the delivery and installation of the arrestor; and comprised of a spray-on protective coating; or an epoxy protective coating; or a liner made from a durable material

### 13.2 GREASE ARRESTORS (GREASE TRAPS)

The use of solvents, enzymes, bacterial bacteria, odour control agents or pesticides in grease arrestors is prohibited unless specifically Approved by Wide Bay Water. Conditional approval may be given to allow the Generator to demonstrate to Wide Bay Water that the product to be used does not adversely impact on the sewerage system.



Where it is intended that several trade waste Generators share the use of a single grease arrestor, the following information is required to be clearly tabled on the plan submitted with the application for approval:

- The size of the grease arrestor; and
- Details of the loading to be discharged by each trade waste Generator; and
- The names of the businesses and shop numbers sharing the grease arrestor; and
- The names of the businesses/agent responsible for managing the maintenance and cleaning of the grease arrestor.

### 13.3 OIL ARRESTORS (OIL INTERCEPTORS)

A mineral (petroleum) oil arrestors for the treatment of oily wastewater must be appropriately sized. Acceptable methods of oil arrestors installations include:

- Coalescing plate separators; and
- Membrane technology; and
- Dissolved air floatation (DAF); and
- Chemical precipitation; and

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

All water supplies to wash down bays must be protected with an Approved backflow prevention device.

Maintenance cleaning of oil arrestor shall be carried out on a regular basis in accordance with conditions of the approval by a Wide Bay Water Approved Industrial Liquid Removal Contractor.

Only “Quick Break Detergents” may be used on oil arrestor installations.

Removal of oily waste shall be done by a waste transporter licensed under the Environmental Protection Act 1994 and the Environmental Protection Regulation 1998.

### 13.4 OTHER ARRESTOR APPLICATIONS

Arrestor installations may be used for other trade waste treatment applications such as:

- silt separation;
- oil and grease (non petroleum);
- cooling;
- neutralisation; and
- other specific applications approved by the Wide Bay Water.

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

## 14.0 OPERATION OF PRE-TREATMENT DEVICES

Pre-treatment devices are installed to assist in ensuring that the discharged trade waste meets Sewer Emission Limits. Pre-treatment devices must be maintained in accordance with manufactures specifications and routinely cleaned/maintained. Cleaning of pre-treatment devices must be undertaken



by an Environmental Protection Agency (EPA) Licensed waste transporter and the waste must be disposed of at an Environmental Protection Agency Approved site.

## 14.1 GREASE ARRESTORS

### 14.1.1 MINIMUM PUMP-OUT FREQUENCY OF A GREASE ARRESTOR

The period between scheduled pump-out **shall not exceed 12 weeks** or otherwise stated on the Trade Waste Approval.

Upon completion of each and every pump-out the grease arrestor **shall be refilled with clean potable water** to the working level of the arrestor, it is the responsibility of the generator or property owner/authorised agent whichever party is responsible to ensure this is done.

### 14.1.2 TRADE WASTE TIPS THAT CAN SAVE YOU MONEY

Keep water supply and cleaning costs to a minimum with the following tips:

#### Save water

- Use dry or waterless cleaning methods such as wiping or sweeping spills rather than hosing.
- Turn off taps if they are not being used.
- Avoid running the tap continuously during rinsing.
- Where sinks are used for rinsing, install spring loaded foot operated taps or electronic sensor operated taps.
- Ensure the dishwasher unit is full each time it is used.

#### Reduce solid waste in grease traps

- Scrape and wipe leftover food from plates and cooking utensils into the garbage before washing up. Never put solid waste such as coffee grounds or tea leaves down the sink.
- Provide appropriate scrapers for staff to use.
- In-sink garbage disposal units are not allowed.
- Use sink strainers.

#### Recycle cooking oil

- Collect used cooking oil so that it can be recycled and never pour cooking oil into grease traps.
- Store cooking oil in a bunded area so that any leaks or spills cannot drain into the sewer or stormwater system. Wide Bay Water can supply a list of companies that recycle used cooking oil.

#### Use less cleaning products

- Detergents dissolve grease, allowing it to pass through the grease trap and cause blockages in the sewerage system. Avoid using strong cleaning products such as bleach or caustic soda.
- Do not use solvents, bacteria, enzymes or other substances in your grease arrestor without permission from Wide Bay Water.

#### Educate staff

- Train kitchen staff about what they can and cannot put down the sink.
- Place signs or stickers around the kitchen to remind staff of proper practices.



## 14.2 OIL ARRESTORS

### 14.2.1 MINIMUM PUMP-OUT AND SERVICE FREQUENCY OF A OIL ARRESTOR

- All pump well/holding tank pump-outs shall not exceed 6 months or otherwise stated on the Trade Waste Approval
- The period between scheduled maintenance/servicing shall not exceed 12 weeks or follow otherwise stated in manufactures maintenance requirements.

### 14.2.2 TIPS FOR MAINTAINING PRE-TREATMENT EQUIPMENT

Oil arrestors or oil water separation systems remove oil-based pollutants from wastewater. Typical pre-treatment includes coalescing plate separators (CPS), hydrocyclone separation systems (HSS) and vertical gravity separators (VGS).

The following tips will help maintain oil water separation system and protect the sewerage system and the environment. **Remember:** Only install pre-treatment equipment that has been authorised by Wide Bay Water.

- Degreasing bays, vehicle washing areas and workshop floors should pump to an oil arrestor.
- Oil arrestors cannot process large amounts of liquid and chemicals such as oil, chemicals, petrol, kerosene, radiator fluids, brake fluids, non quick break degreasers and solvents.
- Store all liquids adequately so any spills are easily captured and removed off site. Collect all spills and do not discharge them to the separator.
- Follow the manufacturer's instructions and maintain equipment regularly so that wastewater remains within an acceptable standard. Pre-treated wastewater should be clear, not milky.
- Train at least 2 people in your workshop to manage the equipment in case it needs cleaning or servicing at short notice.
- Install a dry basket arrestor or bucket trap to collect all nuts, bolts and other loose material that can damage the pump.
- Ensure the pump well/holding tank has a sloping bottom, a sump and a working capacity of at least 550 litres. If you are using an existing pre-treatment pit as a pump well/holding tank, install a sloping bottom and sump. Pump wells/holding tanks with sealed lids should be vented.
- The shape of the pump well/holding tank and lid placement must allow periodic cleaning of the whole pump well/holding tank. Clean out any sand collected in the sump.
- Install a robust, rust-proof basket with 6-8mm evenly spaced holes around the pump suction line to protect the pump from solid items such as nuts and bolts.

### 14.2.3 COALESCING PLATE SEPARATORS (CPS)

- Follow the manufacturer's instructions and maintain CPS equipment regularly, including the total pump out and cleaning of plates and hopper and removing sludge from the bottom of the hopper.
- The CPS collection well/holding tank must hold a minimum volume of 550litres.
- If the CPS does not have a screen, install a basket to capture large solid items and make sure any perforations are no larger than 10mm.
- Only the pump authorised by Wide Bay Water as part of the pre-treatment authorisation process may be installed.



#### 14.2.4 HYDROCYCLONE SEPARATION SYSTEMS (HSS)

Follow the manufacturer's instructions and maintain hydrocyclone separation systems regularly, including:

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

#### 14.2.5 VERTICAL GRAVITY SEPARATOR SYSTEMS (VGS)

Follow the manufacturer's instructions and maintain vertical gravity separator systems regularly, 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.

- The VGS collection well/holding tank must hold at least 550litres.
- The VGS must have a screen, or basket to capture large solid items with perforations no larger than 10mm.
- A skimmer may be fitted to the pump suction line.

#### 14.2.6 CLEANING COMPOUNDS

- Aerosol and solvent degreasers may contain flammable materials and may not allow the oil and water to separate.
- Traditional cleaning compounds such as solvent-based degreasers create an oil-water suspension that lasts for several hours, allowing oil to pass through the pre-treatment equipment and into the sewer. Try different products to find 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.
- Quick-break cleaning products separate oil and water within several minutes, enabling your separation system to work as an efficient oil arrestor. Milky wastewater from the pre-treatment equipment indicates the presence of emulsified oil. If this occurs, you may require a better quick-break detergent.
- When using a cleaning product only use the specified amount. Using more only wastes product and increases operating costs.
- Alternatively, a hot water pressure cleaner will use less degreaser and give you a really clean job.
- You may need to work with pre-treatment equipment and cleaning compound suppliers to ensure the equipment works satisfactorily and the treated wastewater meets Wide Bay Water's Trade Waste Management guidelines and Sewer Admission Limits.
- Do not use petrol, kerosene or diesel to clean parts. Flammable substances can cause fire and explosions in the sewer.



## **15.0 WASTE DISPOSAL UNITS**

### **15.1.1 FOOD WASTE DISPOSAL UNITS**

Food waste disposal units (garbage grinders/insinkorators) may be approved by specific application to Wide Bay Water. Where installation is approved, sampling of trade waste may be required to ensure trade waste charges cover the real cost of treating the wastes at a treatment plant.

## **16.0 MEDICAL, CLINICAL, VETERINARY AND INFECTIOUS WASTES**

Solid wastes from any hospital, clinic, office or surgery of a medical or veterinary facility or laboratory, convalescent or nursing home or health transport facility; including, but not limited to, hypodermic needles, syringes, instruments, utensils, swabs, dressings, bandages, or any paper or plastic item of a disposable nature, or any portions of human or animal anatomy; shall not be discharged to the sewerage system.

Infectious or hazardous wastes deemed to pose a threat to public health and safety may not be discharged to the sewerage system without approval of Wide Bay Water. Such wastes shall require treatment to render them non infectious or non hazardous prior to discharge. When Approved for discharge, trade waste charges will apply.

Discharging liquid wastes including faeces and body fluids to sewer from any hospital, clinic, officer or surgery of a medical or veterinary facility or laboratory, convalescent or nursing home or health transport facility is permitted in accordance with the National Guidelines for Waste Management in the Health Industry 1999, National Health and Medical Research Council.

## **17.0 CONTAINMENT OF TOXIC/HAZARDOUS SUBSTANCES**

Any potentially toxic or hazardous substances shall be stored in areas where leaks, spillages, or overflows cannot be drained by gravity or by an automated mechanical means to the sewerage system or the stormwater system.

## **18.0 REMOVAL OF INDUSTRIAL LIQUID WASTE FROM PREMISES**

No person shall discharge or cause to be discharged directly or indirectly to the sewerage system, wastes from any liquid transport vehicle without receiving an approval from Wide Bay Water.

Removal of any regulated wastes from a premise shall only be carried out by waste transporters licensed in accordance with 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 shall be required to maintain records as prescribed by Wide Bay Water to account for all waste collected and disposed of within or outside the local council area.

Oil arrestor and oil separator holding tanks and pits waste shall not be disposed of to the sewerage system. Such wastes shall be disposed of in a manner and/or at a site approved of in accordance with the requirements of the Environment Protection Act 1994 and the Environmental Protection Regulation 1998 and operated in accordance with the requirements of the Environmental Protection (Waste Management) Regulation 2000.



Removal and disposal of sewage and septic tank sludges shall only be done by a Wide Bay Water Approved waste transporter. Such waste shall be disposed of into the sewerage system in accordance with approval conditions.

All waste transporters may be required to maintain records as prescribed by Wide Bay Water to account for all waste collected and disposed of within Wide Bay Water boundaries.

Trade waste charges will apply to all transported liquid and sludge waste Approved for discharge to the sewerage system.

Advice on the disposal of liquid waste may be obtained from

**Wide Bay Water Corporation**

Tel: 1300 808 888

## 19.0 DISCHARGE OF LIQUID WASTES FROM RECREATIONAL VESSELS AND BUSES

The discharge of certain galley and toilet wastes from recreational vessels may be permitted via Approved “pump out” facilities at Ports and Marinas. The waste discharged from these facilities must meet Sewer Admission Limits as set out in Appendix 2. The operator of such facilities must hold an approval for discharge. Charges will be in accordance with the category classification.

The discharge of untreated bilge water to the sewerage system is prohibited.

The discharge of toilet water from buses, aircraft or other recreational vehicles may be permitted at Approved discharge locations such as bus or transport depots, terminals, and caravan parks. The Owner of the premises on which such facilities are located must hold an approval and discharge must be in accordance with the approval conditions.

## 20.0 STORMWATER DISCHARGE FROM OPEN AREAS & COMMERCIAL SWIMMING POOLS

The discharge of stormwater to the sewerage system is strictly prohibited.

The ingress of surface water from a potentially contaminated open area or overfull swimming pool to the sewerage system can cause severe operational problems to Wide Bay Water causing sewage overflows.

Trade waste generating areas must be covered by an adequate roof and be bunded adequately to exclude stormwater from entering the sewerage system. A 10degree overhang must cover open-sided structures. The bunds must be adequate to maintain separation of trade waste and stormwater surfaces. Or trade waste generating areas must be fitted with a working first flush system.

The first flush system must:

- pump all such water to sewer at a rate acceptable to Wide Bay Water;
- include measures to ensure the discharge to sewerage system ceases automatically after a predetermined level of rainfall volume (mm) and/or intensity (mm/hr);
- include measures to collect, segregate and treat the “first flush” volume equivalent to 10mm X open area (m<sup>2</sup>), during wet weather with additional runoff directed to the stormwater system; and
- have a suitable device for the determination of sewer discharge volume to be installed.

All conditions will be specified in the approval.

Trade Waste charges in accordance with the discharge category will apply.





## 20.1 Commercial Swimming Pools

Backwash water from commercial swimming pools is trade waste and a Trade Waste Approval is required for discharge into the sewerage system. Beneficial re-use of backwash water must be considered prior to applying for a Trade Waste Approval. Backwash systems with a pumping rate of > 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.

## 21.0 LANDFILL LEACHATE

Leachate from landfill sites and wastewater from waste treatment/disposal facilities constitutes a trade waste and may not be discharged to sewer without approval from Wide Bay Water.

Trade waste charges in accordance with the discharge category will apply.

## 22.0 DISCRETIONARY POWER

Notwithstanding the provisions of these management guidelines, given the complexity of many industrial wastes and the need to protect Wide Bay Water's sewerage system, staff and the environment, acceptance of any given trade waste to sewerage system shall always be at the discretion of Wide Bay Water.

## 23.0 REFERENCE TO WIDE BAY WATER

In these management guidelines, reference to Wide Bay Water means any person appointed or authorised by Wide Bay Water to act on behalf of Wide Bay Water Corporation as the case may require.





# Trade Waste

# MANAGEMENT GUIDELINES

Appendices



WIDE BAY **water**  
CORPORATION

water today  water tomorrow

## APPENDIX 1

### SELECTED LEGISLATION RELEVANT TO TRADE WASTE

- WATER SUPPLY ( SAFETY AND RELIABILITY ACT) 2008
- PLUMBING AND DRAINAGE ACT 2002
- PLUMBING AND DRAINAGE REGULATION 2003
- STANDARD PLUMBING AND DRAINAGE REGULATION 2003
- ENVIRONMENTAL PROTECTION ACT 1994
- ENVIRONMENTAL PROTECTION REGULATION 2008
- ENVIRONMENTAL PROTECTION (WASTE MANAGEMENT) REGULATIONS 2000
- ENVIRONMENTAL PROTECTION (WASTE MANAGEMENT) POLICY 2000
- ENVIRONMENTAL PROTECTION (WATER) POLICY 1998
- LOCAL GOVERNMENT ACT 1993
- SUSTAINABLE PLANNING ACT 2009
- RADIATION SAFETY ACT 1999
- RADIATION SAFETY REGULATION 1999
- GENE TECHNOLOGY ACT 2001 (QUEENSLAND LEGISLATION)
- GENE TECHNOLOGY ACT 2000 (COMMONWEALTH LEGISLATION)



## APPENDIX 2

### SEWER ADMISSION LIMITS

The upper Limits for the quality of trade waste discharged to the sewer for all categories are set out below. These Admission standards shall apply from 1 July 1992. They are subject to periodic review.

#### 1 GENERAL PROHIBITIONS

Parameter	Concentration mg/L except *
Temperature *	38°C
PH *	6 - 10
Biological Oxygen Demand (BOD5) +	600
Chemical Oxygen Demand (COD) +	1200
Total Organic Carbon (TOC) +	1200
Suspended Solids +	600
Total dissolved solids (TDS)	4000
Total oil/grease	200
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 Wide Bay Water's sewerage system.
Chlorine (as Cl <sub>2</sub> )	10
Sulphate (as SO <sub>4</sub> )#	2000
Sulphite (as SO <sub>2</sub> )	100
Surfactants - Amnionic (MBAS)	500
Aluminium (as Al) #	100
Iron (as Fe) #	100
Ammonia plus ammonium ion (as N) #	100
Total Kjeldahl (Total P) #	50
Manganese (as Mn)	100

+ This total mass load and the capacity of the sewerage system to accept the load shall be considered for each application. # Wide Bay Water Corporation may in some circumstances accept waste containing higher concentrations of these substances. Additional charges for treatment will apply.



## 2 PROHIBITED DISCHARGES

The following are prohibited discharges:

- Flammable/explosive substances
- Radioactive substances
- Pathological and infectious waste and Cytotoxic waste
- Genetically engineered organisms.
- Floodwater, rainwater and stormwater, and roof water, 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)

## 3 SPECIFIC PROHIBITIONS - INORGANIC

Parameter	Concentration mg/L
Boron (B)	100
Bromine (Br <sub>2</sub> )	10
Fluoride (F)	30
Cyanide (CN)	5
Sulphide (S)	5

## 4 SPECIFIC PROHIBITIONS - METAL

Parameter	Maximum Concentration
Arsenic (As)	5
Cadmium (Cd)	2
Chromium (Cr) - Total - 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



The concentration values apply to dischargers having daily mass load between the Lower daily Mass Load (LDML) and the Upper Daily Mass Load (UDML). For smaller discharges with a daily mass load below the LDML, no concentration Limits apply. Dischargers who exceed Wide Bay Water's UDML Limits will be required to take measures to meet the UDML. This may involve treating to a lower concentration than indicated above.

\* For discharges below the Lower Daily Mass Load, hexavalent Cr must be reduced to trivalent Cr.

## 5 SPECIFIC PROHIBITIONS - ORGANIC

Wide Bay Water may request specific demonstrable evidence based on degradability and toxicity concerning substances listed below.

Parameter	Maximum Concentration mg/L
Formaldehyde (HCHO)	50
Phenolic compounds (as Phenol)	100
Pentachlorophenol	5
Petroleum hydrocarbon (non flammable)	30
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	
• General (insecticides/herbicides/fungicides)*	1.0
• Organophosphates	0.1
• Organochlorines	

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

## 6 OTHER

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



## APPENDIX 3

### COMMON TRADE WASTE SAMPLING PARAMETER DEFINITIONS AND THE EFFECTS OF TRADE WASTE ON SEWERS

#### High Biological Oxygen Demand (BOD)

Is a measure of the amount of oxygen consuming substances contained within a sample and is an indicator of the polluting capacity of sewer discharge.

- Overload treatment units at the sewage treatment plant
- May accelerate the generation of sulphides in sewer mains and consequently odours and corrosion problems

#### High Chemical Oxygen Demand (COD)

Is a measure of the overall level of organic contamination in waste water

- Overload treatment units at the sewage treatment plant
- May accelerate the generation of sulphides in sewer mains and consequently odours and corrosion problems

#### Suspended Solids

Is a measure of the amount of solid particles held in suspension within a sample.

- Form deposits (in the sewers) which reduce the capacity of sewers and can lead to overflow conditions
- Accumulate in wet wells and pumping stations resulting in increased maintenance
- Cause blockages and sewage overflows in the drains of commercial and industrial properties
- Can deteriorate mechanical equipment (pumps and valves) by abrasion
- Overload treatment units at the sewage treatment plant

#### Grease and Oil

- Cause the formation of deposits of greasy solids along the water line of sewers thereby reducing the sewer capacity. These deposits can lead to the breakaway of accumulated grease at times of high or very low flow
- Accumulate in wet wells and pumping stations and cause blockages and failure of the pumps
- Deposit in bends of the sewer and cause restrictions and blockages
- Cause blockages and sewage overflows in the drains of commercial and industrial properties
- Accumulate on screens at treatment facilities causing blockages and repairs
- Reduce the efficiency of sewage treatment
- May cause non-compliance of the sewerage treatment plant effluent with licence conditions

#### pH

Is a measure of the relative acidity or alkalinity of a sample.





### **Low pH**

- Causes corrosion of sewer structures
- May cause the release of toxic hydrogen sulphide gas

### **High pH**

- Damages the sewer
- May cause the release of toxic ammonia gas

### **High Temperature**

- Encourages volatile materials to be given off from the sewage into the atmosphere
- Increases the rates of reaction within sewer mains resulting in consumption of oxygen and increasing odours
- Causes damage to sewer structures

### **Heavy Metals**

- Potentially toxic to treatment processes
- Accumulate in biosolids and therefore limit its beneficial reuse

### **Nutrients**

- Small increase in levels of nutrients can cause nuisance algal growth in river systems. These algae consume the oxygen in waterways and therefore threaten fish and plant life
- High levels of ammonia may cause unsafe conditions in sewer mains and pumping stations
- Increase operational costs of sewage treatment plants

### **Sulphur Compounds**

- Sulphates can be reduced to sulphides and then cause odour and corrosion problems
- Sulphites consume oxygen and may cause anaerobic conditions
- Sulphides may result in the release of hydrogen sulphide gas and affect the safety of the personnel

### **Flammable Substances**

- Can cause fires and explosions in the system

### **Cyanide**

- Toxic to living organisms
- May produce toxic gas in sewer

### **Phenols**

- Potentially toxic to biological treatment processes.

### **Chlorinated Solvents**

- Potentially toxic to treatment processes
- Toxic to people working in and around the sewer system

### **Pesticides**

- Limit the beneficial reuse of the sewerage treatment plant effluent and sludge



## APPENDIX 4

### GUIDELINES FOR SIZING GREASE ARRESTORS

1. The capacity of a grease arrestor trap may be calculated from the following capacity allowances for various fixtures and fittings in Commercial Premises.

<b>Fixture/Fitting</b>	<b>Capacity (litres)</b>
Commercial Kitchen Sink	140
Double Bowl or Pit Sink	280
Basin	30
Water Heated bain-marie	40
Dishwasher	
- small (under bench)	400
- medium (upright)	800
- large (more than one outlet)	1200
Potato Peeler	
- small (bench)	100
- medium (upright)	200
- large	400
Steamer/Hydrotherm/Boiling	100
Pots/ Stock Pots	
Wok Burner	140
Mixing Bowl	140
Glass Washers (not in Liquor sales area)	200

or II: If a restaurant, coffee shop, hotel, motel, hostel, nursing home etc does not have fixture or fittings in excess of 250litres capacity the following criteria shall apply:

<b>Serving capacity</b>	<b>Minimum size grease</b>
0 - 40 persons	550L
40 - 90 persons	1000L



## APPENDIX 5

### COMMON PRE-TREATMENT DEVICES

#### **Balancing Pit/Mixing Tank**

A pit or tank used to balance high strength discharge “peaks”. Prevents “shock” loads of toxic substances discharged to the plant. Mixing of slightly acidic and alkaline wastes may bring the pH to a level acceptable for sewer discharge. Useful where small volumes of waste may be mixed to produce an acceptable effluent. e.g. photographic processing.

#### **Cooling Pit/Tank**

A pit or tank used to cool wastewater to 38°C or less prior to discharge to the sewer. Prevents high temperature discharges. e.g. boiler blowdown.

#### **Dry Basket Arrestor (various types)**

A pit or tank which is fitted with a fixed screen and removable mesh basket to capture large solids and fibrous material. Different types are available for different processes. e.g. laundry, food processing, car/truck wash.

#### **General Purpose Pit**

A pit which allows solids to sink and grease/oil to float, thereby removing them from wastewater.

#### **Grease Arrestor– (Grease Trap)**

An above ground tank or in ground pit which allows kitchen wastewater to cool and the grease to separate from the wastewater. When sizing the unit, due consideration should be given to the temperature and frequency of discharges. Minimum size is 550litres. e.g. all non residential premises engaged in the cooking and preparation of food.

#### **Oil Arrestor– (Oil Interceptor)**

A system designed to separate non emulsified oil and solids from the water. These systems are available in a variety of forms and are sized on an individual basis. e.g. service stations, engine and parts wash, mechanical repairs.

#### **pH Correction**

The pH correction of acidic or alkaline waste is a step often required before discharge into the sewer 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 through system. A pH control system basically measures the pH of the solution and controls the addition of a neutralising agent on demand to maintain the effluent within acceptable pH Limits.

#### **Screen**

A device used to catch solids before the waste discharges to sewer.

#### **Settling Tank**

A tank used to settle solids prior to wastewater discharging to sewer. Tanks suitable for under sink use but may be enlarged for in-ground application. e.g. plaster sinks, soil labs.

#### **Solvent and Oil Interceptor**

A pit, which allows solids to sink and grease/oil to float, thereby removing them from wastewater. e.g. laboratory sinks, small degreasing troughs for parts washing, silk screen-printing.



## APPENDIX 6

### PRE-TREATMENT DEVICES BY GENERATOR/BUSINESS TYPE

Generator/Source	Characteristics of waste	Minimum Pre-treatment Required
<b>Automotive/Engineering Industries:</b>		
Wreckers	Oil, grease, solids	Oil arrestor <sup>1</sup>
Detailing	Grease, oil, solids, detergents	Oil arrestor <sup>1</sup>
Engine/gear box reconditioning (small operation)	Lead, grease, oil, solids, detergents, oil, kerosene	Oil arrestor <sup>1</sup>
Equipment Hire Company	Oil, grease, kerosene, solids, detergents	Oil arrestor <sup>1</sup>
Lawn Mower Repairs	Oil, grease, grass, solids, detergents	Oil arrestor <sup>1</sup>
Mechanical Workshop	Oil, grease, kerosene, solids, detergents	Oil arrestor <sup>1</sup>
Panel Beating/Spray Painting	Suspended solids, oil and grease	General purpose pit oil arrestor <sup>1</sup>
<b>Service Stations:</b>		
- work shop only	Oil and grease	Oil arrestor <sup>1</sup>
- covered forecourt	Oil and grease	Oil arrestor <sup>1</sup>
<b>Car Wash Areas - Residential:</b>		
- open areas	Oil, grease, solids, rain	Silt trap, 550L minimum capacity
- roofed and bunded (to prevent storm water ingress)	Oil, grease, solids	Silt trap, 550L minimum capacity
<b>Car Wash Areas - Commercial:</b>		
- open areas	Oil, grease, solids, rain	Stormwater diversion pit, first flush collection pit "first 10mm of rain", oil arrestor <sup>1</sup> , rainwater controls, measurement.
The whole of the intended washdown area is to be roofed and bunded with 10 degree overhang to ensure no ingress of stormwater	Oil, grease, solids	Oil arrestor <sup>1</sup>
Radiator Repair (small operation)	Suspended solids, pH, toxic metals	pH adjustment prior solid settlement and pH adjustment before discharge to sewer; may require oil separation and metal precipitate removal.



<b>Commercial Food Outlets:</b>		
Hot bread, bakery, pies, cakes, pastries	Flour products, grease	Dry arrestor or removable basket in-floor waste collection; grease arrestor <sup>2</sup>
Butcher, small, retail	Grease (washing floors and utensils)	Fixed mesh screen and basket in sink and basins; grease arrestor <sup>2</sup>
Chicken (fresh) retail Meat cutting and preparation	Grease	Fixed mesh screens and baskets in-floor waste collection, mesh sinks and basins, grease arrestor <sup>2</sup>
Fish - fresh (no cooking)	Scales, fish gut	Fixed mesh screen and basket in floor waste; dry arrestor pit
Fish shop retail and cooking on site	Scales, grease	Fixed mesh screen and basket in floor waste; screens in sink and basin; grease arrestor <sup>2</sup>
Canteen/Cafeteria (with hot food preparation)	Grease	Grease arrestor <sup>2</sup>
Caterer	Grease	Grease arrestor <sup>2</sup>
Community Halls (food preparation)	Grease	Grease arrestor <sup>2</sup>
Sandwich/Salad Bar, Coffee Shop - no hot foods prepared	Solids	authorised in-floor basket/bucket trap and authorised in-sink basket/bucket trap
Sandwich Bar with hot food take-away	Grease	Grease arrestor <sup>2</sup>
Coffee Shop hot food prepared and served	Grease	Grease arrestor <sup>2</sup>
Take Away food outlets (small)	Grease	Grease arrestor <sup>2</sup>
Take Away food outlets Large outlets e.g. McDonalds, Pizza Hut, KFC, BBQ and Charcoal Chicken etc.	Grease	Grease arrestor <sup>2</sup>
Commercial Kitchen	Grease	Grease interceptor <sup>2</sup>
Hospital Kitchens	Grease and oil, high temperatures	Grease arrestor <sup>2</sup> , capacity to cool hot discharge water to less than 38°C
Nursing Homes / kitchen	Grease/solids	Grease arrestor <sup>2</sup>
Restaurant	Grease	Grease arrestor <sup>2</sup>
Hotel with counter lunches /restaurant	Grease	Grease arrestor <sup>2</sup>
Motel, kitchen / restaurants	Grease	Grease arrestor <sup>2</sup>
Boarding Houses/ kitchen	Grease	Grease arrestor <sup>2</sup>
Bistro	Grease/oil	Grease arrestor <sup>2</sup>



Ice Cream Parlour - with hot food, take away	Grease	Grease arrestor <sup>2</sup>
Shopping Centres	Grease and solids	Grease arrestor <sup>2</sup>
Supermarkets - incorporating butcher and/or bakery	Grease and solids Grease and flour	Grease arrestor <sup>2</sup> grease arrestor <sup>2</sup> and basket traps; dry arrestor pit or basket in-floor waste collection
<b>Other Commercial/Service Industries:</b>		
Garbage Bin Cleaning units/hotels/restaurants	grease/solids	Fixed screen over floor waste, if grease arrestor <sup>2</sup> installed, waste to pass via arrestor
Hairdressing Salon	Solids	Authorised in-floor bucket trap and authorised in-sink bucket trap
<b>Hobby Clubs</b>		
- < 200L per day	suspended solids	No pre-treatment
- 200L-1000L per day	suspended solids	Plaster arrestor
- > 1000L per day	suspended solids	Solids settlement pit 1000L, min of 1 hour retention
<b>Dental/Medical/Veterinary Surgeries:</b>		
- no plaster casts	Solids	Bottle trap
- plaster casts	Solids	Plaster arrestor
- x-rays	Rinse water and spent solutions	To sewer via balancing tank after silver recovery
<b>Photographic waste</b>		
- Fast Photo - x-rays	Rinse water and spent solutions	To sewer via balancing tank after silvery recovery
<b>School/Education</b>		
- home science, tuck shops with (hot food)	Grease	Grease arrestor <sup>2</sup>
- laboratory	Acid/alkali, chemicals	Sediment and neutralising trap
Optical (>200L/day)	Suspended Solids	Bottle trap under sink
Laundromat	Lint, temperature	Lint screens 1mm mesh: cooling pit if temperature 38 <sup>o</sup> c (washing machine internal screens acceptable)
Kennels	solids	Dry arrestor pit; open area controls
Commercial Swimming Pools	suspended solids, wastewater, chemicals	

## NOTES

<sup>1</sup> Oil arrestor should be of the coalescing plate type minimum capacity 1kL/hour; use only quick break detergents (detergent used for cleaning by emulsifying oils and grease then quickly breaking the emulsion formed in less than 1 hour to allow separation of the oil from the water).

<sup>2</sup> Minimum size for grease arrestors is 550litres. For guidelines for sizing of grease arrestors see **Appendix 4**.



## APPENDIX 7

### POTENTIAL CATEGORY 3 GENERATOR/BUSINESS LIST

#### Food/Beverage Industries

- Fruit/vegetable processing (canning, freezing, juicing)
- Meat processing/small goods manufacturing
- Abattoirs - meat/poultry
- Rendering
- Sea foods
- Dairy products
- Large restaurants
- Wineries/distilleries
- Soft drink/cordial manufacturing
- Confectionary
- Large scale baking (bread, biscuits, pastries etc)
- Grain milling
- Oil seek/oil extraction
- Fermentation/yeast

#### Chemical Related Industries

- Chemical manufacturing - general (organic and inorganic)
- Soap, detergent and associated product manufacturing/formulating
- Explosives
- Pharmaceutical/cosmetics
- Fertilisers
- Pesticides/herbicides
- Plastics
- Resins, adhesives/latex
- Paints/varnishes/lacquers
- Fibreglass
- Rubber - natural/synthetic

#### Apparel / Textile

- Tanneries
- Textiles (wool, cotton, synthetics)
- Industrial/commercial laundries





## **Services**

- Laboratories - scientific and pathology
- Electrical manufacturing/processing
- Electronics
- Industrial/commercial wash areas - car, bus, truck, stables, garbage collection, power generation
- Repackaging activities
- Industrial/commercial storage areas/warehouses
- Recyclers

## **Materials**

- Paper and cardboard processing/manufacturing
- Printing/publications, graphic arts/photographic (large scale)
- Cement
- Asphalt/bitumen
- Glass/ceramics manufacturing

## **Metals**

- Mining/minerals industries smelting/refining foundries
- Electroplaters/galvanisers
- Metal finishing
- Fabrication and powder coating

## **Automotive/Engineering/Petroleum**

- Petroleum refining
- Waste oil refining





# Trade Waste



31 Ellengowan Street  
PO Box 5499  
Hervey Bay Q 4655  
t 1300 808 888  
f 07 4125 5118  
[www.widebaywater.qld.gov.au](http://www.widebaywater.qld.gov.au)