



GLADSTONE REGIONAL COUNCIL

TRADE WASTE MANAGEMENT PLAN

WATER AND SEWERAGE SERVICES

May 2009



Table of Contents

1. INTRODUCTION.....	1
2. DEFINITIONS	3
3. TRADE WASTE MANAGEMENT PLAN.....	7
3.1 PURPOSE	7
3.2 OBJECTIVES.....	7
3.3 MANAGEMENT PLAN INSTRUMENTS	7
4. CONTROL OF TRADE WASTE.....	9
4.1 HEAD OF POWER	9
4.2 TRADE WASTE APPROVALS.....	9
4.3 SUSPENSION OR CANCELLATION OF TRADE WASTE APPROVAL	10
4.4 PENALTIES AND RECOVERY OF COSTS.....	10
5. SEWER ADMISSION LIMITS.....	11
5.1 DISCHARGE CATEGORIES	12
5.2 EFFLUENT IMPROVEMENT PROGRAMS	13
5.2.1 Category A Waste	13
5.2.2 Category B Waste	13
6. TRADE WASTE CHARGES AND FEES	14
6.1 TRADE WASTE CHARGES	14
6.1.1 GENERAL TRADE WASTE CHARGES	15
6.1.2 ADDITIONAL CHARGES FOR OVER LIMIT DISCHARGE	16
6.1.3 EQUIVALENT ARRESTOR CHARGES	16
6.2 TRADE WASTE FEES	17
6.2.1 INSPECTION AND ANALYSIS FEES	17
6.2.2 SEPTIC TANK AND Regulated WASTE FEES.....	17
7. APPLICATION PROCEDURES	18
8. PERMITS AND AGREEMENTS.....	20
8.1 PERMITS	20
8.2 AGREEMENTS	22
9. INSPECTION AND MONITORING.....	24
9.1 INSPECTION CHAMBERS AND/OR GAUGING FACILITY	24
10. DETERMINATION OF DISCHARGE QUANTITY	25
10.1 CATEGORY A.....	25
10.2 CATEGORY B.....	25
11. DETERMINATION OF DISCHARGE QUALITY	26
11.1 CATEGORY A.....	26
11.2 CATEGORY B.....	26
12. SPECIFIC REQUIREMENTS FOR COMMERCIAL AND INDUSTRIAL WASTES.....	27
12.1 REMOVING REGULATED WASTE FROM PREMISES.....	27



12.2 ARRESTOR INSTALLATIONS 28

 12.2.1 GREASE ARRESTORS 28

 12.2.2 OIL ARRESTORS..... 30

 12.2.3 OTHER ARRESTOR APPLICATIONS 30

12.3 ENZYMES / BIOLOGICAL ADDITIVES 31

 12.3.1 ENZYME AND BACTERIAL CULTURES 31

 12.3.2 GENETICALLY MODIFIED ORGANISMS (GMO's)..... 31

12.4 FOOD WASTE DISPOSAL UNITS 31

12.5 COMMERCIAL SWIMMING POOLS / ORNAMENTAL PONDS 31

12.6 MEDICAL, CLINICAL, VETERINARY AND INFECTIOUS WASTES..... 32

12.7 CONTAINMENT OF TOXIC / HAZARDOUS SUBSTANCES..... 32

12.8 DISCHARGE OF LIQUID WASTES FROM VESSELS, VEHICLES AND AIRCRAFT 32

 12.8.1 VESSELS..... 32

 12.8.2 BUSES, AIRCRAFT, RECREATIONAL VEHICLES..... 32

12.9 LANDFILL LEACHATE & DISPOSAL FACILITY WASTEWATER..... 33

12.10 DISCHARGE FROM OPEN AREAS 33

13. DISCRETIONARY POWER 34

14. IMPLEMENTATION..... 34

15. RECORDS AND REPORTING..... 34

APPENDIX 1 35

 SELECTED LEGISLATION RELEVANT TO TRADE WASTE 35

APPENDIX 2 36

 SEWER ADMISSION LIMITS..... 36

 Schedule I. GENERAL LIMITS..... 36

 Schedule II PROHIBITED DISCHARGES..... 39

 Schedule III SPECIFIC LIMITS - INORGANIC..... 40

 Schedule IV SPECIFIC LIMITS - METALS 41

 Schedule VI OTHER 43

APPENDIX 3 44

 TRADE WASTE DISCHARGE FACTORS 44

 Discharge Factors 44

 Review of Discharge Factors..... 46

 Effluent Flowmeters..... 46

 Meter Failure..... 47

APPENDIX 4 48

 APPLICATION FOR VARIATION OF DISCHARGE FACTOR 48

APPENDIX 5 52

 PROHIBITED SUBSTANCES FOR SEWERAGE 52



1. INTRODUCTION

Liquid wastes are produced by a variety of industrial, commercial and domestic activities. The *Environmental Protection Act 1994* provides a general prohibition against the pollution of the environment by the discharge of such wastes, except where the person or agency holds an environmental authority permitting such discharge.

All discharges to receiving waters are required to be treated to a standard that will maintain or enhance receiving water quality and environmental values.

Gladstone Regional Council provides a sewerage system primarily for transporting and treating domestic sewage. Payment for this service is collected through sewerage charges on each rateable property. This system may also be used, with the approval of Council, for the acceptance and treatment of trade waste. As trade waste imposes an additional load on the sewerage system, and hence an additional cost for treatment, trade waste charges apply.

Liquid waste generated by industry, small business and commercial enterprises is referred to as trade waste. The *Water Supply (Safety & Reliability) Act 2008* prohibits the unauthorised discharge of wastes, other than domestic sewage, into the sewerage system. The options for producers of trade waste are to:

- have it treated at an approved treatment facility,
- obtain approval from Council to discharge to the sewerage system, or
- obtain an environmental authority under the *Environmental Protection Act* to treat the waste before discharge to the environment.

Council is required to meet conditions of licenses issued by the Environmental Protection Agency (EPA) for its sewerage systems including the disposal and reuse of treated effluent and biosolids. Council is also required by the *Water Supply (Safety & Reliability) Act 2008* and the *Environmental Protection Policy 1997 (EPP (Water))* to fully assess the effect of trade waste on the sewerage system and the environment before issuing a trade waste approval.

Under the *Environmental Protection Act*, Council is responsible for any pollution from stormwater outfalls under its control. The discharge of trade waste to stormwater is prohibited under the *Local Government Act 1993*. The stormwater system must only be used for the disposal of uncontaminated stormwater runoff.

Domestic sewage consists mostly of water which, after treatment to reduce biodegradable material, suspended solids and nutrients, can be disposed of in accordance with its environmental authority requirements. Council is actively seeking opportunities to reuse and recycle treated effluent and biosolids.



The organic concentration of trade waste can be much greater than that of domestic sewage and may overload the treatment facility. Trade waste may also contain substances such as fats and grease, heavy metals, organic solvents and chlorinated organic substances in high concentrations, which sewerage systems are not designed to treat. These substances may:

- pose a serious risk to the safety and health of sewerage workers;
- damage sewerage system infrastructure;
- inhibit biological processes at the treatment plant;
- accumulate in biosolids, making their reuse difficult or impracticable; or
- pass through the plant untreated resulting in environmental contamination and / or impact on QAL's alumina process.

To ensure the continued protection of our environment and waterways, Council will accept, subject to conditions, biodegradable waste into the sewerage system provided:

- the system is of adequate capacity to effectively collect, transport and treat the waste; and
- the trade waste generator has applied all practicable waste minimisation, recycling and reuse options.

Discharge of waste containing substances in amounts liable to be toxic or hazardous to the sewerage system, treatment process, personnel or the environment is prohibited. Council may consider accepting trade waste containing toxic or hazardous substances and non-degradable pollutants only after the waste has been pre-treated by on-site "best practicable treatment" to ensure sewer admission limits are not exceeded.



2. DEFINITIONS

Annual Trade Waste Permit Charge

An annual utility charge for permitting trade waste to be discharged into Council's sewer.

Arrestor

An apparatus designed to intercept and retain silt, sand, oil, grease, sludge and other substances in a waste discharge.

Applicant

See Owner

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 Council.

Best Practice Environmental Management

Best Practice Environmental Management of an activity is the management of the activity to achieve an on-going minimisation of the activity's environmental harm, through cost-effective measures assessed against the standards currently used nationally and internationally for the activity.

Biochemical Oxygen Demand

Biochemical Oxygen Demand or BOD₅ is defined as the amount of oxygen utilised by micro-organisms in the process of decomposition of organic material in wastewater over a period of 5 days at 20°C. In practical terms, BOD is a measure of the biodegradable organic content of the waste or more simply the '*organic strength*' of the liquid.

Biosolids

The treated solids (sludge) mainly organic, produced by sewage treatment.

Category A Waste

Low strength, any volume trade waste (refer to Section 5.)

Category B Waste

High strength, any volume trade waste (refer to Section 5.)

Chemical Oxygen Demand

This is a measure of the oxygen required to oxidise organic material in wastewater by a strong chemical oxidant. COD is a measure of the organic and inorganic content, both biodegradable and non-biodegradable, of the waste, or more simply, the organic and inorganic strength of the liquid.

Cleaner Production



Cleaner Production means the continuous application of an integrated preventative environmental strategy to processes, products and services to increase efficiency and reduce risks to humans and the environment.

Commercial Swimming Pool

A swimming pool for which an entry fee is charged and/or is not located at a private residence.

Council

In this plan a reference to Council means the Gladstone Regional Council or any person appointed or authorised by the Gladstone Regional Council to act on behalf of Council as the case may require.

Discharge Factor

The “Discharge Factor” is the percentage of the water supplied to the property, as measured by the water meter, which is discharged to the sewerage system. The discharge factor includes all domestic, commercial and industrial wastewater that enters the sewerage system from a property. Discharge factors may range from 0 to 100% and in exceptional circumstances may be greater than 100% if additional material is added to the waste stream as part of the production process.

Domestic sewage

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.

Effluent

The liquid discharged following a wastewater treatment process.

Generator

See *trade waste generator*

Heavy Metals

Metals of high atomic weight, which in certain concentrations can exert a toxic effect.

Human wastes

Human faecal substances and urine.

Property Owner

Owner of property as defined in the *Local Government Act 1993*

pH

This is the measure of acidity or alkalinity of the waste. pH 7 is neutral, below 7 is acidic and above 7 is alkaline.



Premises

A lot as defined in section 1.3.5 of the *Integrated Planning Act 1997*, or for a lot under the *Body Corporate and Community Management Act 1997* or the *Building Units and Group Titles Act 1990* – the common property for the lot

Prohibited substances

A substance prescribed in Schedule 1 of the *Water Supply (Safety & Reliability) Act 2008*.

Quick Break Detergents

Detergents which emulsify oil and grease then break the emulsion in less than one (1) hour.

Recycling of Wastewater

- Reuse of wastewater in the process that generated it; or
- Reprocessing the wastewater to develop a new product; or
- Using the wastewater (whether on or off the site where it is generated).

Regulated waste

Non-domestic waste as mentioned in Schedule 7 of the *Environmental Protection Regulation 1998* (whether or not it has been treated or immobilised) and includes

- a) For an element – any chemical compound containing the element; and
- b) Anything that has contained the waste.

Residuals

The solids that are removed from wastewater by treatment. Biosolids are particular residuals.

Sewage

The wastewater from the community including all faecal matter, urine, household and commercial wastewater that contain human waste.

Sewerage or Sewerage System

A sewer, access chamber, vent, engine, pump, structure, machinery, outfall or other work used to receive, store, transport or treat sewage.

Storm water Drainage

A drain, channel, pipe, chamber, structure, outfall or other work used to receive, store, transport or treat storm water

Suspended Solids

Suspended solids refer to the insoluble solid matter suspended in wastewater that can be separated by laboratory filtration and is retained on a filter.

Total Dissolved Solids



Total dissolved solids refer to salts dissolved in wastewater.

Trade Wastewater, Trade Waste

The water-borne waste from business, trade or manufacturing premises, other than:

- (a) Waste that is a prohibited substance; or
- (b) Human waste; or
- (c) Storm water.

Trade waste agreement

Trade waste approval for the discharge of liquid waste classified as Category B. It states the terms and conditions to be met by the trade waste generator and the owner with respect to the discharge of trade waste into Council's sewerage system.

Trade waste approval

Written approval by Council for a person to discharge trade waste to Council's sewerage system. See *Trade waste agreement and Trade waste permit*.

Trade waste generator

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

Trade waste officer

Trade waste officer means a person holding appointment as a trade waste officer of Gladstone Regional Council.

Trade waste permit (Permit)

Trade waste approval for the discharge of liquid waste classified as Category A. It states the terms and conditions to be met by the trade waste generator and the owner with respect to the discharge of trade waste into Council's sewerage system.



3. TRADE WASTE MANAGEMENT PLAN

3.1 PURPOSE

The purpose of this Management Plan is to provide an environmentally sustainable liquid waste disposal service for commercial and industrial waste in a manner which safeguards public health and environment, and is consistent with Council's responsibilities and obligations under Queensland legislation.

3.2 OBJECTIVES

The objectives of the Management Plan are:

- To transport, treat and dispose of liquid waste in an environmentally sustainable manner
- To prevent harm or injury to sewerage employees.
- To safeguard the sewerage system against damage, blockage or surcharging.
- To provide effluent of a quality suitable to be reused in industrial processes at QAL and NRG
- To exclude non-biodegradable and potentially harmful substances that may:
 - Lead to non-compliance with the conditions of Council's environmental authority issued by the EPA;
 - Cause the treatment process to fail;
 - Interfere with recycling effluent,
 - Render effluent or biosolids unacceptable for reuse or disposal;
 - Cause physical damage to infrastructure; or
 - Cause any other detriment to the environment.
- To equitably recover from commerce and industry trade waste service costs including: conveyance, treatment and disposal, maintenance and repairs
- To improve operation and planning for the sewerage system by understanding the composition and volume of discharges
- To encourage waste minimisation and cleaner production, including waste prevention, recycling, and pre-treatment.
- To promote water conservation.
- To assist Council to meet its statutory obligations.
- To conform with the National Water Quality Management Strategy *Guidelines for Sewerage Systems, Acceptance of Trade Wastes* (Industrial Wastes), Agriculture and Resource Management Council of Australia and New Zealand and Australian and New Zealand Environment and Conservation Council, November 1994.

3.3 MANAGEMENT PLAN INSTRUMENTS



The objectives will be achieved using a combination of Management Plan instruments, including:

- Sewer admission limits (concentration/mass limits for sewerable wastes);
- Conditional trade waste approvals (permits and agreements);
- “User pays” pricing; and
- Effluent improvement programs.



4. CONTROL OF TRADE WASTE

4.1 HEAD OF POWER

Council is required to meet conditions of a license issued by the Environmental Protection Agency. Council is also required by the *Water Supply (Safety & Reliability) Act 2008* and *Environmental Protection Policy 1997* to fully assess the effect of trade waste discharges on the sewerage system and the environment before issuing approvals.

Under the *Environmental Protection Act* Council is responsible for any pollution from stormwater outfalls under its control. The discharge of trade waste to stormwater is prohibited under the *Local Government Act 1993*. The storm water system must only be used for the disposal of uncontaminated storm water runoff.

Legislation governing trade waste discharge and acceptance is in the *Water Supply (Safety & Reliability) Act 2008*, the *Environmental Protection Act 1997*; and the *Local Government Act 1993*. A list of relevant legislation is contained in *Appendix 1*.

It is an offence under the *Water Supply (Safety & Reliability) Act 2008* to discharge trade waste to sewer without Council's approval. It is also an offence to discharge waste other than uncontaminated stormwater to the stormwater system (*Local Government Act 1993*).

4.2 TRADE WASTE APPROVALS

Council approval must be obtained before trade waste is discharged from any property to the sewerage system. It is the responsibility of the property owner to obtain approval through Council's approval process.

Council grants two types of approval:

- Trade waste permits (*Permit*) are used to regulate low strength discharges.
- Trade waste agreements (*Agreement*) are established between Council and businesses, these regulate high strength wastes

The property owner must apply for approval by completing and submitting the signed Trade Waste Application Form.

Where more than one generator is located on a property, one Permit/Agreement will be used to cover the multiple generators. A separate application form however, must be submitted for each generator.

The property owner is responsible for:

- Trade waste generation from occupier of the property,
- Trade waste application submission, permits and/or agreements, renewals, and compliance,



- Payment of trade waste fees & charges
- Non conformance to the permit or agreement
- Notifying Council of any changes to trade waste discharge, owner/occupier details, and any breaches of permit or agreement,
- Trade waste discharge quality testing reports (submission to Council).

4.3 SUSPENSION OR CANCELLATION OF TRADE WASTE APPROVAL

Grounds and procedures for suspension or cancellation of a trade waste approval are defined in section 182 of the *Water Supply (Safety & Reliability) Act 2008*.

For any matter occurring before the suspension or cancellation of a trade waste approval, terms and conditions of the approval, including charges, shall continue to have force and effect after the suspension or cancellation of the trade waste approval.

4.4 PENALTIES AND RECOVERY OF COSTS

Council may prosecute any person who commits a breach of the *Water Supply (Safety & Reliability) Act 2008*, the *Local Government Act 1993* or the *Environmental Protection Act 1994* and the subordinate legislation, or who refuses or neglects to comply with any direction or requirement of Council pursuant to the above legislation or other relevant legislation. Penalties are set out in the above legislation, and include substantial fines.

Council may recover costs of repairing damaged sewerage infrastructure if a person,

- damages the sewerage system by discharging unauthorised material,
- makes an unauthorised connection or,
- interferes with infrastructure in any other manner.



5. SEWER ADMISSION LIMITS

Any waste discharged to Council's sewer must comply with the Trade Waste Sewer Admission Limits. Sewer admission limits are contained in *Appendix 2*. The limits are absolute maximum concentrations and are subject to periodic review.

The trade waste stream and domestic waste stream shall, wherever practicable, discharge separately to the sewer. Where there is a common sanitary drain, allowance for the domestic component will be made to estimate the actual trade waste component strength.

Council requires that trade waste generators implement waste minimisation practices and install best practice pre-treatment processes to reduce both the volume and the contaminant load of wastes discharged to sewer.

Owners of trade waste generating properties, as of 1st July 2009, will, at the discretion of the council, be required to install a trade waste meter for each new occupier who holds a trade waste permit or agreement.

It is the responsibility of the trade waste applicant to demonstrate waste meets *Sewer Admission Limits* or limits negotiated in the *Trade Waste Agreement*. In most instances applicants will be required to have:

- an approved interception or pre-treatment device
- an arrangement with a waste servicing contractor to service pre-treatment equipment on a regular basis,
- an approved maintenance program,
- an ongoing record of operation and maintenance of pre-treatment facilities.

In some instances applicants will also be required to:

- measure trade waste flows,
- undertake effluent quality monitoring.

Diluting trade waste with water to comply with sewer admission limits is prohibited. Council has obligations to avoid sewer overflows and consequently will impose limits on the rate and timing of trade waste discharges.



5.1 DISCHARGE CATEGORIES

The following discharge categories have been developed for approval and charging purposes:

- Category A Low Strength/Any Volume
- Category B High Strength/Any Volume

Discharge category criteria is listed below in table 5.1

Table 5.1

Parameter	Category A Low Strength/Any Volume	Category B High Strength/Any Volume	Licensed Carriers Regulated Waste	
			Low Strength	High Strength
Chemical Oxygen Demand (COD), mg/L	< 600	> 600	< 1,200	> 1,200
Suspended Solids, mg/L	< 300	> 300	< 600	> 600
Total Kjeldahl Nitrogen, mg/L N	< 80	> 80	N/A	N/A
Total Phosphorus, P,mg/L	< 15	> 15	N/A	N/A
Volume, kL/annum	All	All	N/A	N/A
Trade waste approval	Permit	Agreement	N/A	N/A
Charges	Annual Charge plus usage (per kL) if discharge exceeds 250kL	Annual Charge plus usage and pollutant charges (see section 6.1.1)		

Category A trade waste generators will have their trade waste randomly tested by Council trade waste officers to monitor discharge concentrations. Council will apply additional charges to the property owner who exceeds the annual discharge limits (table 5.1) on one or more occasions. This will be closely monitored by Council and if the trade waste generator consistently exceeds the discharge criteria their current permit will become invalid and will need to submit a new application for a Category B agreement.

Category B trade waste generators must supply a third party testing report, to ensure ongoing compliance with the permit or agreement conditions, to Council on a monthly basis or at intervals agreed upon with Council as specified in trade waste agreement. Category B trade waste generators may, upon application, have these tests performed by Council at full cost to the property owner.

Penalties will occur at full cost to the property owner for any breach of the trade waste permit/ agreement in which testing will be conducted by the Council’s trade waste officer.



5.2 EFFLUENT IMPROVEMENT PROGRAMS

5.2.1 CATEGORY A WASTE

For Category A waste a properly sized, approved best practice pre-treatment device, together with an acceptable maintenance program will demonstrate acceptable effluent quality.

5.2.2 CATEGORY B WASTE

Council may negotiate with a Category B property owner to accept waste that exceeds the Sewer Admission Limits for certain General Limit Parameter(s) (Schedule 1, Appendix 2). Additional charges (Section 6.1.2) may apply for such parameters.

Where such an agreement is made, Council may require the property owner to undertake an effluent improvement program. This program should 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 three years to the prescribed admission limits. An action program must be provided, including expected outcomes, timelines and milestones;
- A report for Council, including a summary of achievements and options.

Council will advise Category B property owners in writing if an Effluent Improvement Program is required. The Program will form part of the Trade Waste Agreement enforced under this management plan.



6. TRADE WASTE CHARGES AND FEES

Trade waste charges and fees are levied under sections 36, 973 and 1071A of the *Local Government Act*. Council will determine charges and fees for trade waste as part of the annual review of regulated fees and charges. Charges under section 36 and regulatory fees under section 1071A can be amended at anytime throughout the year.

All trade waste charges and fees apply to the property owner and billing will be sent accordingly. The property owner is responsible for payment of all applicable rates and charges relating to any Trade Waste that is discharged to the sewer.

It is the responsibility of the property owner from which the Trade Waste may be discharged, to ensure that there is a current trade waste approval or permit from the council, and understands & complies with the terms & conditions associated with this approval or permit.

Trade waste fees and charges, for the current financial year, can be found on the Councils website www.gladstonerc.qld.gov.au and are available upon request through the trade waste section of the council.

6.1 TRADE WASTE CHARGES

Trade waste is divided into two categories for charging purposes. Charges are utility charges to cover the cost of treatment, administration and overhead costs associated with trade waste control.

Accounts for trade waste discharged to sewer will be:

- a) Forwarded half yearly for Category A and as per agreement for Category B. The annual charge will be halved and billed accordingly;
- b) inclusive of excess discharge fees if exceeding total annual limits (Table 5.1)
- c) a debt due by the property owner;
- d) Charged interest at a rate fixed by the Council if not paid within 30 days.

Where accounts are not paid by the due date, the permit/ agreement will be deemed invalid and a new trade waste application will be required to be submitted to Council at full cost to the property owner.

Property owners must contact Council as soon as possible if payment can not be made by the due date or if there are any queries relating to this account.



6.1.1 GENERAL TRADE WASTE CHARGES

Where information is available charges will be based on the actual quality and quantity of discharge for the period, not on figures described in the trade waste approval.

Charges will be determined as follows:

Category A:

A minimum annual charge applied to each Trade Waste generator to cover administration, inspections, compliance testing and costs of operating and maintaining the sewerage system.

A quantity charge based on the total annual volume of trade waste discharged to sewer, if greater than 250kL/ annum, is calculated as follows:

$$C = Qk$$

Where

- C = the total quantity charge (\$)
- Q = is the volume discharged after deductions (kL)
- k = is the unit charge rate (\$/kL)

The unit charge rate, k, reflects sewerage system operating costs. It also incorporates both volume and mass load costs based on domestic sewage

Category A property owners will be required to pay additional costs if trade waste discharge to sewer exceeds the limits set in table 5.1 (refer to Category A description in section 5.1 Discharge categories)

Category B:

A minimum annual charge applied to each Trade Waste generator to cover administration, inspections, compliance testing and costs of operating and maintaining the sewerage system

A quantity and quality charge based on the total annual volume of trade waste discharged to sewer, is calculated as follows:

$$C = Qa + Qx_1n_1/1000 + Qx_2n_2 /1000 +.....$$

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 of pollutants N_1, N_2 (mg/L)



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

$N_1, N_2 =$ are the pollutants to be charged for.

Charges for water quality testing can be found under the 'Fees and Charges' section on the Council's website.

Charges will be made for COD, Suspended Solids, Phosphorus and Nitrogen.

6.1.2 ADDITIONAL CHARGES FOR OVER LIMIT DISCHARGE

This charge applies:

- a) Where Council decides to accept trade waste with contaminant concentrations exceeding the *Sewer Admission Limits* (Schedule 1, Appendix 2),
- b) Where a trade waste generator continually discharges waste to sewer in excess of the limits defined in the trade waste approval or the *Sewer Admission Limits* (Schedule 1, Appendix 2) without approval to exceed the limits.

This charge shall apply to each non-complying parameter in addition to the general charges under section 6.1.1.

The formula for calculation is:

Charge = (actual/approved)^d × charge rate (\$/kg) × kg pollutant

Where $d =$ is a constant to be determined by Council;
the minimum ratio for (actual/approved) is 1.0; and

'approved' means the sewer admission limit value or other negotiated value defined in the trade waste approval.

The period of the charge will be the time period, based on the sampling frequency, over which the limits are considered by Council to have been exceeded.

6.1.3 EQUIVALENT ARRESTOR CHARGES

This charge applies where an existing waste stream requires the installation of an arrestor to provide best practice pre-treatment for Category A wastes, but site-specific conditions do not allow for appropriate devices to be installed.

In addition to the normal Category A charges (section 6.1.1), a charge equal to the average cost paid by other trade waste generators of similar waste type and quantity, to have arrestors regularly cleaned, will apply.



6.2 TRADE WASTE FEES

6.2.1 INSPECTION AND ANALYSIS FEES

The trade waste charges in all categories allow for routine inspections and quality compliance analyses by Council. Where additional inspections and laboratory analyses are required because of non-compliance and approval conditions, full costs will be recovered from the owner of the property to the council.

The cost of inspection shall be based on the charge out rate for the relevant Council staff involved and include time spent on site and travel to and from the site.

The full cost of any laboratory analyses carried out by the council will also be recovered from the property owner.

6.2.2 SEPTIC TANK AND REGULATED WASTE FEES

Licensed waste transporters (Section 12) and other persons disposing of septic tank, portable toilet or other approved liquid (regulated) waste to the sewer or sewage treatment plant will be charged on a calculated volume basis (\$/kL) which takes into account the volume and strength of the waste.



7. APPLICATION PROCEDURES

A Trade Waste application must be submitted by the owner to obtain Council approval for any Trade Waste discharge to sewer. It is the responsibility of the property owner to obtain this approval. Should more than one trade waste generator exist on a property then forms should be completed for each individual generator. In this instance one approval will be used to cover multiple businesses and the property owner will be billed for this combined waste. Minimum charges still apply for each trade waste generator. Applicants should contact Council's Trade Waste Section for an application form and assistance.

Applications should be lodged prior to commencement of trading. Examples of appropriate times for lodging applications may include:

- during the processing of a building application for new premises or extensions intended for industrial and/or commercial usage;
- change in tenancy of such premises;
- change of ownership of such premises;
- shop fit-outs of such premises;
- during the processing of an application to strata title such premises;
- existing premises where trade waste is generated and no trade waste approval has been issued;
- immediately following a request from Council to obtain trade waste discharge approval, or
- where a change in process technology occurs.

Regulated waste disposal contractors wishing to discharge septic tank, portable toilet waste or other approved holding tank or liquid waste to the sewer or sewage treatment plant must be licensed and have an Agreement with Council. These businesses will be required to maintain and produce discharge records to Council.

Application forms and advice may be obtained in person, by appointment only, from:

Trade Waste Section
Gladstone Regional Council

Or will be forwarded on request by telephoning (07) 4970 0700.

The *Trade Waste Officer* can advise on the approval type required, pre-treatment options and other application requirements. Agreements must be negotiated with Council. All applications submitted must be accompanied by:

- the application fee,
- a copy of the plumbing approval for the premise,
- details of the proposed method of pre-treatment.



Plumbing and drainage work associated with any treatment process shall comply with the *Plumbing and Drainage Act 2002* and the *Standard Plumbing and Drainage Regulation 2003* and the Plumbing Approval. Plumbing and drainage work must be carried out by a licensed person.

The trade waste stream and domestic waste stream shall, wherever practicable, discharge separately to the sewer. Where there is a common sanitary drain, allowance for the domestic component will be made to estimate the actual trade waste component strength.

All Category B property owners must discharge to a separate manhole before discharging to the sewer and an appropriate flow meter installed. Independent testing must be carried out at regular intervals, on this trade waste, as stated in agreement by Council and property owner.

Where a waste is deemed to be non-sewerable, an approval will **not** be issued and alternative arrangements for disposal of wastes will have to be made. General advice on treatment and disposal options for non-sewerable waste may be obtained from the Council's Environmental Health Section; however detailed advice should be sought from appropriately qualified private consultants.

Renewals to trade waste permits/ agreements must be submitted to council by 1st August 2009 to comply with councils new trade waste management plan.

Existing businesses who have a current trade waste permit/ agreement will not be charged an application fee for this renewal, however, if the renewal is not submitted by the specified date or if annual fees & charges have not been paid then a new application must be submitted at full cost to the property owner.

New businesses will be required to apply for a trade waste permit/ agreement as per section 7 of this plan.



8. PERMITS AND AGREEMENTS

8.1 PERMITS

Council will issue a trade waste *Permit* if a customer can demonstrate compliance with Category A requirements.

Trade waste permits are not transferable.

The Permit contains terms and conditions, which include but are not limited to:

- Business names of all generators discharging on site;
- renewal date;
- the location of the premises and nature of the occupancy;
- the type and composition of trade waste that may be discharged;
- a statement that the quality of waste shall comply with Council's sewer admission limits as specified in *Appendix 2* (or attached to the Permit) and details of any allowed variations;
- 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 estimating or measuring discharge volume;
- provisions for measuring and sampling 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 waste transporters to be used;
- records to be kept concerning the cleaning and maintenance of pre-treatment equipment;
- any other conditions considered by Council to be appropriate.

Trade waste permits do not expire but must be renewed on an annual basis to update any relevant information about the business and/ or trade waste discharge. Renewal forms will be sent out annually, by council, with fees & charges statements and must be sent back to the council by the due date.

If renewal forms are not returned to Council by this due date, the trade waste permit will become invalid and a new application form must be submitted at full cost to the property owner.

Approval from Council's trade waste officer is to be sought before any changes or variations to the trade waste permit discharge are made.



Any breaches of compliance to the trade waste permit will incur penalty fees & charges at full cost to the property owner



8.2 AGREEMENTS

A trade waste generator producing waste assessed as suitable for sewer discharge and classified as Category B may be issued with a written trade waste *Agreement*. The *Agreement* shall remain in force for the specified period unless cancelled sooner.

Trade waste agreements are not transferable.

The *Agreement* states the terms and conditions that will include but are not limited to:

- Business names of all generators discharging from the site;
- expiry/renewal date;
- the location of the premises and nature of the occupancy;
- quality of waste that may be discharged;
- a statement that the quality of waste shall comply with Council's sewer admission limits as specified in *Appendix 2* of the TWMP (or attached to the *Agreement*) and details of any allowed variations;
- quantity of waste that may be discharged;
- rate of discharge - maximum instantaneous, maximum daily;
- hours of day, days of week discharge is allowed;
- requirements for/details of effluent improvement program;
- details of self-regulation monitoring program including
 - sampling/inspection 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 Council;
- 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 prior to entry to sewer;
- pre-treatment processes to be used;
- conditions for maintenance of, and removal of waste from, pre-treatment equipment including the frequency of cleaning, waste transporters to be used ;
- records to be kept concerning the cleaning and maintenance of pre-treatment equipment and disposal of waste;



- the obligation of the trade waste generator concerning any variations to operation or treatment processes that may effect discharge quantity or quality including change of business type;
- a force majeure clause;
- a statement that trade waste charges and fees apply in accordance with section 6 of this Trade Waste Management Plan; and
- any other conditions relevant to the particular discharge as agreed.

Renewal forms will be sent out annually, by Council, with fees & charges statements and must be sent back to Council by the due date.

Approval from Council's trade waste officer is to be sought before any changes or variations to the trade waste agreement discharge are made.

Any breaches of compliance to the trade waste agreement will incur penalty fees & charges at full cost to the property owner.



9. INSPECTION AND MONITORING

Council officers will routinely and randomly inspect the premises of trade waste generators. Generators will permit Council officer's entry to premises at all reasonable times and will not obstruct inspections.

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

- bunding facilities and drainage routes from chemical storage areas,
- stormwater collection and disposal systems,
- trade waste connections and generating areas,
- pre-treatment facilities, service histories and standby equipment,
- concentration and volume measurement,
- work practices

9.1 INSPECTION CHAMBERS AND/OR GAUGING FACILITY

Category B waste shall be discharged to Council's sewerage system through a suitable manhole (as explained in section 7). This manhole must be located on the trade waste discharge line in an area accessible at all times to Council's officers, allowing for sampling and/or monitoring equipment to be installed and operated.

A suitable 240 volt power outlet and a standard water supply outlet with back-flow prevention device installed in accordance with AS 3500 Part 1 and AS 2845.3 and approved by Council is required at all manhole sites.

In new Category A and B installations, from 1st July 2009, the trade waste discharge line must be separate from the domestic waste discharge line where practical. For existing installations retrofitting is not required except where it may be done during any proposed upgrading or alterations to the installation or as a requirement of the Permit to discharge.

If a commercial or industrial premise generates trade waste but does not discharge trade waste to Council's sewerage system, a suitable inspection point must be installed on the sanitary drain. It must be in an accessible location within the property boundary and before connecting into the Council sewer. This is to enable checks to be made to ensure that trade waste is not being discharged to sewer.

Arrestor trap installations and other pre-treatment devices on premises discharging Category A and B waste must have an inspection opening provided externally to the building, within the premises, at finished ground level.



10. DETERMINATION OF DISCHARGE QUANTITY

10.1 CATEGORY A

In the absence of an approved trade waste flow meter, the volume of trade waste discharged from a property will be estimated by the metered water consumption to the property multiplied by a discharge factor. The discharge factor represents the proportion of water consumed at the property which is discharged as trade waste.

Council will adopt standard industry discharge factors. The factors are included in *Appendix 3* but may be varied on a case-by-case basis to more accurately represent the business. A generator may apply for a revision of their discharge factor if they believe the business includes non-standard water use (see *Appendix 4*).

Where there is no discharge factor available, Council will estimate a factor up to 100 percent.

High volume Category A trade waste generators will be required to install an approved flow measurement device, as of 1st July 2009, to be calibrated as specified in the *Permit* conditions.

10.2 CATEGORY B

An approved flow measurement device calibrated as specified in the Agreement will measure the volume of trade waste discharged to the sewer. 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 based on a discharge factor shall be used.

For trade waste generators exempt from installing a flow measurement device discharge volumes will be estimated by applying a “discharge factor” to the volume of water supplied to the property (refer to *Section 10.2* and *Appendix 4*).



11. DETERMINATION OF DISCHARGE QUALITY

11.1 CATEGORY A

Quality measurements for Category A discharges are required for compliance checks only. Council will do this as part of its inspection and monitoring regime at no additional cost to the approval holder. Where additional inspection and testing is required because of non-compliance the property owner will be charged for these services.

11.2 CATEGORY B

Quality measurements are required for both charging and compliance purposes.

For charging purposes, a system of self-monitoring by the property owner will be used to collect sufficient data to enable the mass load for the designated charging period to be calculated. Where pre-treatment is required to meet sewer admission limits for specified parameters, self-monitoring will be required for those parameters, or a suitable surrogate, to confirm satisfactory pre-treatment. Requirements for self-monitoring and auditing by Council shall be specified in the Agreement.

The property owner shall meet all costs of self-monitoring.

Council will inspect the premises, collect and analyse samples for assessment of compliance with Agreement conditions. The cost is covered by the annual trade waste charge.

Where self-monitoring is not done or additional inspection and testing is required to be done by Council as a result of non-compliance, Council will charge the property owner as prescribed in Council's Register of Regulatory fees applicable at time of discharge.



12. SPECIFIC REQUIREMENTS FOR COMMERCIAL AND INDUSTRIAL WASTES

12.1 REMOVING REGULATED WASTE FROM PREMISES

Regulated wastes are non-domestic wastes listed in Schedule 7 of the *Environmental Protection Regulation (1998)*. Examples include:

- acids and acid solutions
- chlorides
- laboratory chemicals
- fish processing waste
- oil separator sludges
- oil and water emulsions
- treatment tank sludges
- grease interceptor trap residue

Many regulated wastes cannot be disposed to sewer. Advice on appropriate disposal methods for regulated wastes may be obtained from the *Trade Waste Officer*.

Discretionary agreements between the council and the trade waste generator will be developed, for these regulated wastes, upon application.

Regulated waste and waste from septic tanks, portable toilets and holding tanks can only be removed by EPA licensed waste transporters and must be disposed of in accordance with requirements in *Environmental Protection Policy*.

Licensed waste transporters must maintain records to account for all waste collected and disposed of within or outside Council's jurisdiction. These records must be submitted to the council's trade waste officer and may be used by Council to audit the pre-treatment servicing arrangements of its trade waste customers.

Licensed waste transporters must be registered with Council to discharge liquid waste to Council's sewage treatment plants. Waste must be compliant with limits in this document.

Regulated waste removal will only be carried out by EPA licensed waste transporters in accordance with requirements of the *Environmental Protection Act*.

No person shall discharge or cause to be discharged directly or indirectly to sewerage, wastes from any waste transport vehicle without a trade waste approval.



Waste from grease and oil arrestors, other than treated effluent from approved installations (Section 12.2) will not be discharged to the sewerage system. Such waste will be disposed of in a manner and/or at a site approved by Council and in accordance with requirements of the *Environmental Protection Act* and the *Environmental Protection Regulation 1998* and the *Environmental Protection (Waste Management) Regulation 2000*.

Trade waste charges in accordance with Section 6 and Council's Register of Regulatory Fees will apply to all transported liquid and sludge waste approved for discharge to sewerage.

Advice on the disposal of liquid waste not suitable for discharge to sewerage may be obtained from the Trade Waste Officer.

12.2 ARRESTOR INSTALLATIONS

Where arrestor installations are required to pre-treat waste before discharge to sewer they must be of a design and capacity approved by Council.

In an existing situation where a grease arrestor is required for pre-treatment but cannot be installed because of specific site constraints, an equivalent arrestor charge will apply (Section 6.1.3).

12.2.1 GREASE ARRESTORS

Guidance on the sizing and installation of grease arrestors is available from the *Standard Plumbing and Drainage Regulation 2003*, sections 39 and 40, and from Gladstone Regional Council's Trade Waste Officer.

The maximum capacity of an individual grease arrestor shall be 2,000 litres. Where the capacity requirement for a premise is greater than 2,000 litres, additional arrestors shall be used, with each arrestor to be a discrete installation separately treating a defined waste stream.

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

- the size of the arrestor;
- details of the loading to be discharged by each trade waste generator;
- the names of the businesses and shop number(s) sharing the arrestor.
- the responsibility of each individual party towards
 - on-going operation and maintenance of the facility;
 - pro-rata payment of the appropriate charges; and



- any non-compliance and the rectification thereof.

Grease arrestors must be located so as to allow appropriate access for inspection and servicing requirements. Council must approve the location prior to installation. A hose cock with suitable backflow prevention is to be provided for cleaning. Where a grease arrestor is unable to be located in an accessible area for servicing, a suitable pumpout line must be installed.

All grease arrestors shall be fitted with full length and width opening, gas tight covers and frames, and where food preparation and/or food cooking takes place to be a minimum of 550 litres capacity.

The use of solvents, enzymes, mutant or natural bacterial cultures, odour control agents or pesticides in grease arrestors is prohibited unless specifically approved by Council. Conditional approval may be given to allow the trade waste generator to demonstrate to Council that the product to be used does not adversely impact on the sewerage system or the environment.

Maintenance cleaning of grease arrestors must be carried out on a regular basis in accordance with conditions of the trade waste approval by a waste transporters licensed under the Environmental Protection Act 1994 and the Environmental Protection Regulation 1998.

If the cleaning of the grease arrestors is not undertaken on a regular basis, Council will arrange for this to be done and all related charges (including 15% for overheads) will be at full cost to the property owner.

In a situation where a grease arrestor is required for pre-treatment but cannot be installed because of specific site constraints an equivalent arrestor charge (Section 6.1.3) will apply.



12.2.2 OIL ARRESTORS

Appropriately sized mineral (petroleum) oil arrestors for the treatment of oily wastewater will be approved in most circumstances. Acceptable methods include:

- coalescing plate separators;
- membrane technology;
- dissolved air flotation (DAF);
- chemical precipitation;
- hydrocyclones;
- triple stage interceptors; and
- other apparatus /methods.

Each application will be assessed on the nature of the oily waste to be treated, the proposed treatment method and site location. The unit must be located so as to allow appropriate access for inspections and servicing. Council must approve the location prior to installation. A hose cock with suitable backflow prevention is to be provided for cleaning. Above ground oil separators must be positioned within a roofed bunded area and drained back to holding tank.

Subject to recommendations by the manufacturers of plate separators, “Quick Break Detergents” may be used with plate separation units.

Maintenance cleaning of mineral oil arrestors shall be carried out on a regular basis in accordance with conditions of the trade waste approval. A waste transporter licensed under the Environmental Protection Act and the Environmental Protection Regulation shall do removal of oily waste.

If the cleaning of the grease arrestors is not undertaken on a regular basis, Council will arrange for this to be done and all related charges (including 15% for overheads) will be at full cost to the property owner.

12.2.3 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 Council.

Each application will be assessed on the nature of the waste to be treated, the proposed treatment method and site location. The unit must be located so as to allow appropriate access for inspection, pump out and cleaning. Council must approve the



location prior to installation. A hose cock with suitable backflow prevention is to be provided for cleaning.

Maintenance cleaning of arrestors shall be carried out on a regular basis in accordance with conditions of the trade waste approval by waste transporters licensed under the Environmental Protection Act and the Environmental Protection Regulation.

If the cleaning of the grease arrestors is not undertaken on a regular basis, Council will arrange for this to be done and all related charges (including 15% for overheads) will be at full cost to the property owner.

12.3 ENZYMES / BIOLOGICAL ADDITIVES

12.3.1 ENZYME AND BACTERIAL CULTURES

Enzyme and mutant or natural bacterial cultures may be permitted for use in certain biological pre-treatment systems by way of specific application to Council.

Applicants will need to demonstrate to Council that the product will not adversely impact the sewerage system or the environment.

12.3.2 GENETICALLY MODIFIED ORGANISMS (GMO's)

The use of genetically modified organisms (GMO's) is regulated under the *Gene Technology Act 2000* (Commonwealth Legislation) and *Gene Technology Act 2001* (Queensland legislation).

Any person wishing to discharge commercial products containing genetically modified organisms to sewerage must first obtain approval from the Gene Technology Regulator Canberra. Council may then grant approval for discharge to sewerage.

Laboratories and other facilities which culture, package or transport GMO's should have in place sufficient procedures and pre-treatment equipment to ensure that no live GMO's are discharged to sewerage.

12.4 FOOD WASTE DISPOSAL UNITS

Food waste disposal units (garbage grinders/in sink waste disposal units) may be approved for non-residential use by specific application to Council. Disposal fees are included under Council's general sewerage charges.

12.5 COMMERCIAL SWIMMING POOLS / ORNAMENTAL PONDS

A trade waste Permit or Agreement is required to discharge back wash water and water from commercial and public swimming pools or ornamental ponds to sewer.



12.6 MEDICAL, CLINICAL, VETERINARY AND INFECTIOUS WASTES

Clinical and related waste should be managed in accordance with the requirements of the *Environmental Protection (Waste Management) Regulation 2000*.

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 sewer.

Discharging liquid wastes including faeces and body fluids to sewer from any hospital, clinic, office 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.

Infectious or hazardous liquid wastes deemed to pose a threat to public health and safety may not be discharged to the sewer without approval from Council. 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.

12.7 CONTAINMENT OF TOXIC / HAZARDOUS SUBSTANCES

Any potentially toxic or hazardous substances shall be stored in bunded areas where leaks, spillage, or overflows cannot be drained by gravity or by any automated mechanical means to sewerage or the storm water drainage system.

Bunding of toxic or hazardous substances shall meet recommendations of applicable best practice guidelines, standards, or codes of practice.

12.8 DISCHARGE OF LIQUID WASTES FROM VESSELS, VEHICLES AND AIRCRAFT

12.8.1 VESSELS

Depending on the quality, the discharge of certain galley and toilet wastes from 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 to sewerage. Charges in accordance with section 6.2.2 will apply. The discharge of untreated bilge water to the sewer is prohibited.

12.8.2 BUSES, AIRCRAFT, RECREATIONAL VEHICLES



The discharge of toilet waste from buses, aircraft or 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 for discharge to sewerage and discharge must be in accordance with the approval conditions. Charges in accordance with section 6.2.2 will apply.

12.9 LANDFILL LEACHATE & DISPOSAL FACILITY WASTEWATER

Leachate from landfill sites and wastewater from waste treatment/disposal facilities constitutes a trade waste and may not be discharged to sewer without approval through the issue of a trade waste approval.

Charges in accordance with the discharge category classification will apply.

12.10 DISCHARGE FROM OPEN AREAS

The discharge of rainwater and storm water to sewer is prohibited.

The ingress of surface water from a potentially contaminated open area to sewerage can cause severe operational problems for Council. However, there may be circumstances when it is environmentally beneficial to accept these wastes to the sewer under strict controls.

The discharge to sewer from any potentially contaminated open area that is raised or bunded may be considered, provided the quality and quantity requirements of this plan are met.

Applicants should note that an open area approval is not an alternative to the appropriate management of polluted areas such as roofing or other methods to keep water away from the open area. Applicants must demonstrate to Council that all appropriate measures to keep runoff water away from the potentially contaminated open area have been taken.

A trade waste approval is required to discharge such waste.

All applications for sewer discharge from open areas must have controls incorporated in the design that will, in the opinion of Council ensure that:

- all contaminated liquid waste is pumped to sewer at a rate acceptable to Council;
- all discharge to sewer ceases automatically after a predetermined level of rainfall volume (mm) and/or intensity (mm/hr) to be set by Council;
- the "first flush" volume is collected and segregated during wet weather with additional runoff directed to the storm water system. Applicants should seek advice from Council on the required "first flush" volume to be collected;



- the "first flush" volume collected is pumped to sewer, after any necessary pre-treatment, no sooner than one (1) hour after the rain stops;
- a suitable device for the determination of sewer discharge flow and volume to be installed.
- Any additional conditions as applicable

All conditions will be specified in the Permit/Agreement.

Charges in accordance with the discharge category classification will apply.

13. DISCRETIONARY POWER

Notwithstanding the provisions of this management plan, due to the complexity of many industrial wastes and the need to protect Council's sewerage system, employees, and the environment, acceptance of any given trade waste to sewer will always be at the discretion of Council.

14. IMPLEMENTATION

This plan will become effective from 1st July 2009 and will be implemented over a period of 1 year for existing businesses. New businesses commencing after 1st July 2009 will be required to fully comply with the policy from their date of commencement.

15. RECORDS AND REPORTING

Council will develop a waste database for the purpose of maintaining, in a publicly accessible form, information on waste generation within Council's local government area. The database will list information on wastes routinely produced by commerce and industry, by location, volume and character.

A component of the database will contain trade waste information based on information produced by holders of trade waste approvals, and from monitoring conducted by or under Council direction. Both solid and liquid wastes will be recorded.

The waste database will facilitate the local recycling and reuse of waste, and will assist the Council in waste management planning and reporting.

Council will report annually on the implementation of its trade waste environmental management plan to the Environmental Protection Agency / the Department of Natural Resources, Mines and Energy through the Total Management Planning process.



APPENDIX 1

SELECTED LEGISLATION RELEVANT TO TRADE WASTE

Water Supply (Safety & Reliability) Act 2008

Environmental Protection Act 1994

Environmental Protection (Water) Policy 1997

Environmental Protection Regulation 2008

Environmental Protection (Waste Management) Policy 2000

Environmental Protection (Waste Management) Regulation 2000

Local Government Act 1993

Integrated Planning Act 1997

Plumbing and Drainage Act 2002

Standard Plumbing and Drainage Regulation 2003

Radiation Safety Act 1999

Radiation Safety Regulation 1999

Gene Technology Act 2001 (Queensland legislation)

Gene Technology Act 2000 (Commonwealth legislation)

Gladstone Regional Council Local Laws



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 limits shall apply from 1 July 2009. They are subject to periodic review.

If, in the opinion of the Trade Waste Officer, it is determined that the wastewater may have an adverse effect on the sewerage system, these limits may be reviewed and replaced with more stringent limits for a specific discharge.

SCHEDULE I. GENERAL LIMITS

Parameter	Concentration mg/L - except *	Remarks
Temperature *	not to exceed 38° C	Higher temperatures: <ul style="list-style-type: none"> · cause increased damage to sewer structures · increase the potential for anaerobic conditions to form in the wastewater · promote the release of gases such as H₂S and NH₃ · can adversely affect the safety of operations and maintenance personnel
pH *	6.0 – 10.0	Extremes of pH: <ul style="list-style-type: none"> · can adversely affect biological treatment processes · can adversely affect the safety of operations and/or maintenance personnel · cause corrosion of sewer structures · increase the potential for the release of toxic gases such as H₂S and HCN
Biochemical Oxygen Demand (BOD ₅)	300	High BOD can: <ul style="list-style-type: none"> · overload the treatment process · increase the potential for the generation of sulphides in the wastewater
Chemical Oxygen Demand (COD)	600	High COD can: <ul style="list-style-type: none"> · overload the treatment process · increase the potential for the generation of sulphides in the wastewater
Total Organic Carbon (TOC)	600	High TOC can: <ul style="list-style-type: none"> · overload the treatment process · increase the potential for the generation of sulphides in the wastewater
Suspended Solids	300	High SS can: <ul style="list-style-type: none"> · cause sewer blockages · overload the treatment processes
Total Dissolved Solids (TDS)	4000	High TDS reduces effluent reuse options and may contribute to soil salinity
Total Oil/Grease (hexane extraction)	200	Grease and Oil: <ul style="list-style-type: none"> · can cause sewer blockages · may adversely effect the treatment processes · may impair the aesthetics of the receiving water



Parameter	Concentration mg/L - except *	Remarks
Gross Solids	non faecal gross solids shall have a maximum linear dimension of less than 20 mm and a quiescent settling rate of less than 3 m/hr	Gross solids can cause sewer blockages
Colour *	limited such as not to give any discernible colour in treatment works discharge	Colour may cause: <ul style="list-style-type: none"> · aesthetic impairment of receiving water · adverse affects on lagoon treatment processes Where potential for such problems exists, a level of colour which is tendered not noticeable after 100 dilutions may be used as a guideline
Odour *	not detectable in 1% dilution or causing an odour problem in sewerage system	
Chlorine (as Cl ₂)	10	Chlorine: <ul style="list-style-type: none"> · can adversely affect the safety of operation and maintenance personnel · can cause corrosion of sewer structures
Sulphate (as SO ₄)	1000	Sulphate: <ul style="list-style-type: none"> · may adversely affect sewer structures · may increase the potential for the generation of sulphides in the wastewater
Sulphite (as SO ₂)	100	Sulphite has potential to release SO ₂ gas and thus adversely affect the safety of operations and maintenance personnel. It is a strong reducing agent and removes dissolved oxygen thereby increasing the potential for anaerobic conditions to form in the wastewater.
Surfactants - Anionic (MBAS)	500	MBAS is a measure of anionic surfactants. High MBAS can: <ul style="list-style-type: none"> · adversely effect the efficiency of activated sludge plants · impair the aesthetics of receiving waters
Aluminium (as Al)	100	Aluminium compounds, particularly in the presence of calcium salts, have the potential to precipitate as a scale which may cause a sewer blockage
Iron (as Fe)	100	Iron salts may precipitate and cause a sewer blockage. High concentrations of ferric iron may also present colour problems depending on local conditions
Ammonia plus ammoniacal ion (as N)	100	High ammonia: <ul style="list-style-type: none"> · may adversely effect the safety of operations and maintenance personnel · may significantly contribute to the nutrient load to the receiving environment
Total Kjeldahl Nitrogen (as N)	150	High Kjeldahl nitrogen may significantly contribute to the nutrient load of the receiving environment or place a higher loading on the treatment process
Total Nitrogen (Total N)	165	High Total nitrogen may significantly contribute to the nutrient load of the receiving environment or place a higher loading on the treatment process



Parameter	Concentration mg/L - except *	Remarks
Phosphorus (Total P)	50	High phosphorus may significantly contribute to the nutrient loading of the receiving environment or place a higher loading on the treatment process
Manganese (as Mn)	100	
Boron (B)	100	High concentrations may restrict irrigation applications
Bromine (Br ₂)	10	High concentrations pose risk to sewerage personnel
Fluoride (F)	30	Fluoride is not removed by conventional sewage treatment, however, pre-treatment can easily reduce concentrations to below 20 mg/L.
Cyanide (CN)	5	Cyanide may produce toxic gases in the system
Sulphide (S)	5	Sulphides in wastewater may: <ul style="list-style-type: none"> . cause corrosion of sewer structures . generate odours in sewers . produce dangerous gases
Formaldehyde (HCHO)	50	Pose risk to sewerage personnel
Phenolic compounds (as Phenol)	100	Adversely affect biological treatment. Not removed by conventional treatment, subsequent environmental impacts
Pentachlorophenol	5	Pentachlorophenol can inhibit biological treatment and impact the receiving environment.
Petroleum Hydrocarbons	30	Persistent and disruptive to treatment process.
Halogenated Aliphatic Hydrocarbons	5	Numerous problems to transport and treatment systems.
Halogenated Aromatic Hydrocarbons (HAHs)	0.002	Persistent with the ability to bioaccumulate in animal tissue.
Polychlorinated biphenyls (PCBs)	0.002	
Polybrominated biphenyls (PBBs)	0.002	
Polynuclear Aromatic Hydrocarbons (PAHs)	5	Adverse effects on animals. Some are also persistent and are not degraded by conventional treatment processes.
Pesticides: General (insecticides/herbicides/fungicides)	1.0	This category covers all pesticides other than those specifically listed below. Pesticides can be toxic to people and the environment.



Parameter	Concentration mg/L - except *	Remarks
Pesticides:		
Organophosphates		
Azinphos-methyl		
Azinphos-ethyl		
Coumaphos		
Demeton		
Dichlorvos		Other organophosphate pesticides are covered by the preceding Pesticides (General) category.
Dimethoate		
Disulfoton		
Fenitothion	0.1	This list includes substances on the following lists of environmental toxicants:
Fenthion		UK Red List
Malathion		UK Candidate List
Methamidophos		EC Priority Hazard List; and
Mevinphos		North Sea Agreement, App 1D
Omethoate		
Oxydemeton-methyl		
Parathion		
Triazophos		
Trichlorfon		
Pesticides: Organochlorines		
Aldrin	0.001	
Chlordane	0.006	Organochlorine pesticides are particularly persistent in the environment and their use has been severely limited by regulatory authorities.
DDT	0.003	
Dieldrin	0.001	
Heptachlor	0.003	
Lindane	0.1	

+ The total mass load and the capacity of the sewerage system to accept the load shall be considered for each application.

Council may in some circumstances accept waste containing higher concentrations of these substances. Additional charges for treatment (section 7.1.2) will apply.

++ Specify analytical method

SCHEDULE II PROHIBITED DISCHARGES

Prohibited substances as defined in Schedule 1 of the Water Supply (Safety & Reliability) Act 2008

- Flammable/explosive substances.
- Radioactive substances except as allowed for under the Radiation Safety Act 1999 and Radiation Safety Regulation 1999.



- Pathological and infectious waste and Cytotoxic waste except as allowed for under the National Guidelines for Waste Management in the Health Industry, National Health and Medical Research Council, 1999.
- Genetically modified (engineered) organisms.
- Rainwater and stormwater and uncontaminated water.

SCHEDULE III SPECIFIC LIMITS - INORGANIC

Parameter	Concentration mg/L – except *	Remarks
Boron (B)	100	Boron is not removed by conventional treatment. High concentrations in effluent may restrict irrigation applications.
Bromine (Br ₂)	10	High concentrations may adversely affect the safety of operations and maintenance personnel.
Fluoride (F)	30	Fluoride is not removed by conventional sewage treatment, however, pre-treatment can easily and economically reduce concentrations to below 20 mg/L.
Cyanide (CN)	5	Cyanide may produce toxic atmospheres in the sewer and adversely affect the safety of operations and maintenance personnel.
Sulphide (S)	5	Sulphides in wastewater may: <ul style="list-style-type: none">. cause corrosion of sewer structures. generate odours in sewers which could cause public nuisance. result in sewer gases which could adversely affect the safety of operations and maintenance personnel

**SCHEDULE IV SPECIFIC LIMITS - METALS**

Parameter	Maximum Concentration mg/L	Lower Daily Mass Load g/day	Remarks
Arsenic (As)	5	15	Metals have the potential to: <ul style="list-style-type: none"> · impair the treatment processes · impact on the receiving environment · limit the reuse of biosolids and effluent
Cadmium (Cd)	2	6	
Chromium (Cr)			
Total	20	75 *	
Hexavalent	10		
Cobalt (Co)	10	30	
Copper (Cu)	10	75	
Lead (Pb)	10	30	
Mercury (Hg)	0.05	0.15	
Nickel (Ni)	10	30	
Selenium (Se)	5	15	
Silver (Ag)	5	15	
Tin (Sn)	10	30	
Zinc (Zn)	10	75	

The concentration values apply to discharges having a daily mass load between the Lower Daily Mass Load (LDML) and the Upper Daily Mass Load (UDML). For small discharges with a daily mass load below the LDML, no concentration limits apply. Dischargers who exceed Council'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.

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



Schedule VSPECIFIC LIMITS – ORGANIC

Parameter	Maximum Concentration mg/L	Remarks
Formaldehyde (HCHO)	50	Formaldehyde in the sewer atmosphere can adversely affect the safety of operations and maintenance personnel.
Phenolic compounds (as Phenol)	100	Phenols may adversely affect biological treatment processes. They may not be completely removed by conventional treatment and subsequently impact on the environment.
Pentachlorophenol	5	Pentachlorophenol can adversely affect biological treatment process: . may impair the quality of the receiving environment.
Petroleum Hydrocarbons	30	Petroleum hydrocarbons may adversely affect the safety of operations and maintenance personnel. Because of their stability and chemical properties these compounds: . may adversely affect the treatment processes
Halogenated Aliphatic Hydrocarbons	5	. may impair the quality of the receiving environment . may adversely affect the safety of operations and maintenance personnel.
Halogenated Aromatic Hydrocarbons (HAHs)	0.002	Because of their stability, persistence and ability to bioaccumulate in animal tissue these compounds have been severely restricted by health and environmental regulators.
Polychlorinated biphenyls (PCBs)	0.002	
Polybrominated biphenyls (PBBs)	0.002	
Polynuclear Aromatic Hydrocarbons (PAHs)	5	Many of these substances have been demonstrated to have an adverse effect on the health of animals. Some are also persistent and are not degraded by conventional treatment processes. This category covers all pesticides other than those that are specifically listed below. Pesticides: . may adversely affect the treatment processes
Pesticides: General (insecticides/herbicides/fungicides)	1.0	. may impair the quality of the receiving environment . may adversely affect the safety of operations and maintenance personnel . affect effluent and biosolids quality thereby limiting reuse options



Parameter	Maximum Concentration mg/L	Remarks
Pesticides: Organophosphates		
Azinphos-methyl		
Azinphos-ethyl		
Coumaphos		
Demeton		
Dichlorvos		Other organophosphate pesticides are covered by the preceding Pesticides (General) category.
Dimethoate		
Disulfoton		
Fenitothion	0.1	This list includes substances on the following lists of environmental toxicants:
Fenthion		UK Red List
Malathion		UK Candidate List
Methamidophos		EC Priority Hazard List; and
Mevinphos		North Sea Agreement, App 1D
Omethoate		
Oxydemeton-methyl		
Parathion		
Triazophos		
Trichlorfon		
Pesticides: Organochlorines		
Aldrin	0.001	
Chlordane	0.006	
DDT	0.003	Organochlorine pesticides are particularly persistent in the environment and their use has been severely limited by regulatory authorities.
Dieldrin	0.001	
Heptachlor	0.003	
Lindane	0.1	

SCHEDULE VI OTHER

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



APPENDIX 3

TRADE WASTE DISCHARGE FACTORS

DISCHARGE FACTORS

For many businesses it is impractical to meter wastewater discharged to sewer. For these customers, Council will estimate the volume of wastewater discharged to the sewerage system by applying a discharge factor to the volume of potable water supplied to the property.

The “Discharge Factor” is the proportion of water supplied to a property (measured by the water meter) that is discharged to the sewerage system. Discharge factors may range from 0 to 100% and in exceptional circumstances greater than 100% if additional material is added to the waste stream as part of the production process.

Seasonal variations can occur throughout the year. The discharge factor method considers these factors and aims to deliver fair estimates across the year. Discharge factors will only be adjusted by a minimum of 5% or by multiples of 5% i.e. the discharge factor will be rounded off to the nearest 5%.

Industry standards and information supplied by other water authorities has been used to develop the discharge factors shown below in Table A3.

*Table A3: Discharge Factors*

Industry/Business Type	Discharge
Bakery (only bread cooked on site)	25%
Bed & Breakfast	NA
Brewery/Distillery	80%
Butcher	90%
Car Wash	70%
Carpet Cleaner	90%
Commercial Laundry/Drycleaner/Laundromat	92%
Concrete Batching Plant	5%
Crafts/Stonemason	80%
Dentists	80%
Engineering Works/Workshop	70%
Fast Food	60%
Fishery	90%
Food Processor	90%
Hairdresser/Salon	50%
Hospital	80%
Hotel/Tavern/Night Club	25%
Nursery/Landscaping	20%
Nursing Home	50%
Outdoor Sports Club	To be
Panel Beating/Spray painting	70%
Printing	85%
Restaurant/	50%
Service Station	70%
Shop/Shopping Centre/Showroom	50%
Swimming Pool Complex	10%
Takeaway	50%
Utility (electricity, telephone, water, sewerage)	90%
Veterinary Clinic	20%
Workshop – mechanical/engineering	70%



REVIEW OF DISCHARGE FACTORS

Either Council or the property owner may initiate a review of the discharge factor if it is believed the percentage of water discharged to sewer is not being accurately calculated.

The property owner can initiate a review by completing the attached Discharge Factor Variation Application Form (Appendix 4). Information supporting the application should be attached but Council may also request additional information. This information must be supplied at the applicant's cost.

Information could include:

- flow data,
- a process schematic or building plan.

The property owner will be informed in writing if Council is reviewing its discharge factor. Council will cover costs associated with reviews it initiates.

In exceptional circumstances, which may include changes to equipment, technology or business practices, an application for a discharge factor variation may also be accepted from an organisation representing a group of similar businesses. However, in this instance, the organisation must show that the information supporting its application is representative of a business or all similar businesses discharging into Council's sewerage system.

Where a discharge factor is varied from the table included with the management plan or a previous discharge factor, the property owner will be advised in writing of the variation. The variation will be effective from the next billing period and will not be applied retrospectively.

The applicant will also be advised in writing if Council does not believe the information provided justifies a variation to the discharge factor.

EFFLUENT FLOWMETERS

All property owners, effective 1st July 2009, proposing to discharge greater than 5,000 litres per day must install an effluent flowmeter. Property owners who discharge a high strength waste or a wastewater volume greater than the volume of water supplied to the property must also install an effluent flowmeter.

Effluent flowmeters must be maintained as per the manufacturer's recommendations and calibrated by a suitably qualified person as often as required to ensure the device records accurately. Maintenance and calibration records must be kept for at least five (5) years and must be submitted to Council's authorised officers.



METER FAILURE

Should the water meter fail, readings from the previous four (4) billing periods will be averaged and used to calculate the sewerage charge. If the failure occurs before four billing periods have elapsed, available data will be used.

In the event of the effluent flowmeter failing, the effluent and water meter readings from the previous four (4) billing periods will be used to estimate a discharge factor. This discharge factor will be used in conjunction with the water meter readings from the current billing period to calculate the sewerage charge. If the failure occurs before four billing periods have elapsed, available data will be used.



APPENDIX 4

APPLICATION FOR VARIATION OF DISCHARGE FACTOR

Applicant's Details

Name: _____

Postal Address: _____

Telephone: Home _____ Business _____

Email: _____

Property Details

Property Number (refer rate notice): _____

Property Address: _____

Building Type: Factory Offices Shops

(NOTE: may be more Restaurant Accommodation

than one type of Other _____

building on property) _____

Business Details

Business Category/Type: _____ Current Discharge Factor: _____

Number of Employees: _____ Is the business seasonal? Yes No

Number of Toilets: _____ Number of Urinals: _____

Main Business Activity: _____



CONTINUED OVER THE PAGE



WATER USAGE/ WASTEWATER GENERATION

A Annual water supplied to Property (refer rates notice) _____ kL

B Garden/Landscape use _____ kL Metered? Yes No
 (Allowance) Estimated
 If estimated, basis for estimation _____

C Used in Product _____ kL Metered? Yes No
 (Allowance) Estimated
 If estimated, basis for estimation _____

D Cooling towers _____ kL Metered? Yes No
 (Allowance) Estimated
 If estimated, basis for estimation _____

E Evaporation loss _____ kL Metered? Yes No
 (Allowance) Estimated
 Facility _____
 If estimated, basis for estimation _____

F Other _____ kL Metered? Yes No
 (Allowance) Estimated
 Details _____
 If estimated, basis for estimation _____

G Total Allowances B + C + D + E + F = _____ [G]

Your estimation of the discharge factor:

$$\begin{aligned}
 & [A] \boxed{} - [G] \boxed{} \\
 & \text{[Average water supplied to property - Allowance]} \times 100\% \\
 & \text{Average water supplied to property} \quad \boxed{} \quad [A]
 \end{aligned}$$

Please attach any supporting evidence such as meter readings, technical information, production records or areas of gardens/landscape, to support this application.

DECLARATION



I declare that all of the information supplied in this application is true and represents typical water use at my property.

Signed _____

Date _____ / _____ / _____



APPENDIX 5

PROHIBITED SUBSTANCES FOR SEWERAGE (As per *Water Supply (Safety & Reliability) Act 2008*)

1. A solid or viscous substance in a quantity, or of a size, that can obstruct sewerage, or interfere with the operation of sewerage.

Examples of solids or viscous substances that are prohibited substances if of a size or in the quantity mentioned in item 1 –

- ash, cinders, sand, mud, straw and shavings
 - metal, glass and plastics
 - paper and plastic dishes, cups and milk containers whether whole or ground by garbage grinders
 - rags, feathers, tar and wood
 - whole blood, paunch manure, hair and entrails
 - oil and grease.
2. A flammable or explosive solid, liquid or gaseous substance (including petrol).
 3. Floodwater, rainwater and stormwater, and roof water, seepage water, subsoil water and surface water.
 4. A substance that, given its quantity, is capable alone, or by interaction with another substance discharged into sewerage, of –
 - a. inhibiting or interfering with a sewage treatment process; or
 - b. causing damage or a hazard to sewerage; or
 - c. causing a hazard for humans or animals; or
 - d. creating a public nuisance; or
 - e. creating a hazard in waters into which it is discharged; or
 - f. contaminating the environment in places where effluent or sludge from a sewage treatment plant is discharged or reused.

Example of substance under item 4 – substance with a pH lower than 6.0 or greater than 10.0, or having another corrosive property.

5. A substance at a temperature of more than –
 - a. If the local government has approved a maximum temperature for the substance – the approved maximum temperature; or
 - b. If paragraph (a) does not apply - 38°C.