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NSW Department of Planning, Industry and Environment

Liquid Trade Waste Management Guidelines

For councils in regional NSW, 2021

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More information

Prepared by the Water Utilities Branch of the Department of Planning, Industry and Environment, in consultation with local water utilities in regional NSW.

Foreword

Councils are responsible for the provision of water supply and sewerage services in regional NSW.

Sound regulation of sewerage and liquid trade waste is a key component of the NSW Government's *Best Practice Management of Water Supply and Sewerage Guidelines 2007*. The government expects all councils to comply with the requirements in those guidelines.

These Liquid Trade Waste Management Guidelines have been prepared to enable councils to undertake best-practice regulation of sewerage and liquid trade waste in regional NSW.

The benefits of adopting best-practice sewerage and liquid trade waste regulation include:

- improved sewerage system performance, i.e. reduced frequency of sewage odour complaints, reduced frequency of sewer chokes, and protection of sewerage infrastructure, worker health and safety, and the environment
- being able to meet council's due diligence obligations and achieve improved environmental outcomes, such as improved compliance with sewage treatment works licences and more options for water recycling and reuse of biosolids
- full cost recovery by the introduction of commercial pricing of sewerage and liquid trade waste and removal of cross-subsidies
- reduced annual sewerage bills, as the improved sewerage system performance will free up system capacity. This will enable council to service population growth and new commercial development without needing to augment the existing sewerage infrastructure
- a more efficient approval process, together with recognition by industry of the economic benefits of consistently complying with their conditions of approval
- compliance with the Best Practice Management Guidelines, which also ensures compliance with the National Sewage Quality Management Framework.

These guidelines set out a process for approving the liquid trade waste discharges to the sewerage system in situations where council has been given notice that it may assume concurrence to its approval. These guidelines also:

- encourage councils with significant experience in liquid trade waste regulation to apply for authorisation to assume concurrence for medium-risk liquid trade waste and human waste tankered to the sewerage system
- provide detailed information to assist councils in their approval of the above liquid trade waste discharges
- provide practical advice on the assessment and approval of liquid trade waste applications, the preparation of a liquid trade waste policy, and regulation of liquid trade waste discharges.

Acknowledgements

This is the fourth edition of the Liquid Trade Waste Management Guidelines, initially published in 2002. These guidelines have been prepared by the Water Utilities Branch of the Department of Planning, Industry and Environment, in consultation with local water utilities in regional NSW.

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Abbreviations and acronyms

AS	Amalgam separator
BOD	Biochemical oxygen demand
COD	Chemical oxygen demand
CPI/CPS	Coalescing plate interceptor/separator
DA	Development application
EPA	Environment Protection Authority (NSW)
EIP	Effluent improvement plan
EMP	Environmental management plan
FOG	Fats, oils, and grease
EP	Equivalent population
HSS	Hydrocyclone separation system
LAP	Local approvals policy
MBAS	Methylene blue active substances
NATA	National Association of Testing Authorities
O&G	Oil and grease
PC2/PC3	Physical containment laboratory level 2/3
PIN	Penalty infringement notice
PAH	Polyaromatic hydrocarbons
PFAS	Per- and poly-fluoroalkyl substances
POEO Act	*Protection of the Environment Operations Act 1997*
SDF	Sewer discharge factor
SDS	Safety data sheets
SS	Suspended solids
STW	Sewage treatment works
TDS	Total dissolved solids
TKN	Total Kjeldahl nitrogen
TP	Total phosphorus
TRH	Total recoverable hydrocarbon
TWDF	Trade waste discharge factor
UC	Usage charge for sewer
VGS	Vertical gravity separator
WH&S	Work health and safety
WSAA	Water Services Association of Australia

Glossary

Authorised assumed concurrence—councils with significant experience in liquid trade waste regulation are encouraged to apply to the Secretary, Department of Planning, Industry and Environment for authorisation to assume concurrence to council's approval for Classification B and Classification S discharges (ss. 5.1.2 and 7.3). If granted, council will no longer need to forward such applications to the department for concurrence, provided that council complies with the conditions outlined in the notice of concurrence.

Automatic assumed concurrence—council has been granted assumed concurrence for approval for Classification A discharges, provided that council complies with conditions outlined in the notice of concurrence. Such applications may be approved by council without forwarding the application to the department for concurrence.

Bilge water—minor amounts of water collecting in the bilge from rain, seepage, spillage and boat movements. Bilge water may be contaminated with oil, grease, petroleum products and seawater.

Biochemical oxygen demand (BOD_5)—the amount of oxygen utilised by microorganisms in the process of decomposition of organic material in wastewater over a period of five days at 20°C. In practical terms, BOD is a measure of biodegradable organic content of the waste.

Biohazardous waste—waste contaminated with biological substances that threatens the health of living organisms, including humans and animals. This includes specimen cultures from medical and pathological laboratories, waste from the production of biological agents, discarded live and attenuated vaccines, human blood, certain human body fluids, and animal or plant pathogens.

Biosolids—primarily organic solids produced by sewage processing. Until such solids are suitable for beneficial use, they are defined as wastewater solids or sewage sludge.

Blackwater—wastewater containing human excrement (i.e. faeces, urine).

Bunding—secondary containment provided for storage areas, particularly for materials with the propensity to cause environmental damage.

Chemical oxygen demand (COD)—a measure of oxygen required to oxidise organic and inorganic matter in wastewater by a strong chemical oxidant. Wastewaters containing high levels of readily oxidised compounds have a high COD.

Chemical toilet—toilets in which wastes are deposited into a holding tank containing deodorizing or other chemicals. Stored wastes must be pumped out periodically.

Commercial retail discharge—can be described as liquid trade wastes that are discharged from businesses dealing directly with the public.

Commercial caterer—for the purpose of these guidelines, a commercial caterer is typically a stand-alone operation and prepares food for consumption off-site. These types of businesses typically cater to wedding functions, conferences, parties, etc. This definition does not apply to a food processing factory supplying pre-prepared meals to a third party.

Composting toilet—a type of toilet that treats human excreta by a biological process (composting). The process leads to the decomposition of organic matter and turns human excreta into compost. Unlike flush toilets, composting toilets do not require a connection to septic tanks or sewer systems.

Council—for the purpose of these guidelines, 'council' refers to a local government body (including a local water utility) that provides water supply and sewerage services in regional NSW. For the purpose of these guidelines, this term also covers Essential Water, which provides water and sewerage service in Broken Hill area.

Contingency plan—a set of procedures for responding to an incident that will affect the quality of liquid trade waste discharged to the sewerage system. The plan also encompasses procedures to protect the environment from accidental and unauthorised discharges of liquid trade waste, leaks and spillages from stored products and chemicals.

Crown land—all land where the title is owned by the state and reserved for public purposes such as recreation, schools, hospitals, cemeteries, community facilities, preservation of flora and fauna, and grazing.

Concurrence—under s. 90(1) of the *Local Government Act 1993* and cl. 28 of the Local Government (General) Regulation 2005, council must obtain the written concurrence of the Secretary of the Department of Planning, Industry and Environment prior to approving the discharge of liquid trade waste to council's sewerage system. The department's Water Utilities Branch provides concurrence on behalf of the Secretary.

Digester—a tank in which sludge is placed to allow digestion to occur, usually under anaerobic (in the absence of oxygen) conditions.

Due diligence program—a plan that identifies potential health and safety, environmental or other hazards (e.g. spills, accidents or leaks) and appropriate corrective actions aimed at minimising or preventing the hazards.

Effluent—the liquid discharged following a wastewater treatment process.

Effluent improvement plan (EIP)—the document required to be submitted by a discharger who fails to meet the acceptance limits set down in council's approval conditions and/or liquid trade waste agreement. The document sets out measures taken by the discharger in order to meet the acceptance limits within an agreed timeframe.

Fast food outlet—a food retailing business featuring a very limited menu, precooked or quickly prepared food, and take-away operations. Premises of this nature include KFC, McDonalds, Red Rooster, Pizza Hut, Hungry Jack's, Burger King, etc.

Galley waste—liquid waste from a kitchen or a food preparation area of a vessel, not including solid wastes.

Greywater—wastewater from showers, baths, spas, hand basins, laundry tubs, washing machines, dishwashers or kitchen sinks.

Heavy metals—metals of high atomic weight that in high concentrations can exert a toxic effect and may accumulate in the environment and the food chain. Examples include mercury, chromium, cadmium, arsenic, nickel, lead and zinc.

Housekeeping—a general term that covers all waste minimisation activities carried out within a premises as part of its operations.

Industrial discharges—industrial liquid trade waste is defined as liquid waste generated by industrial or manufacturing processes. Examples are provided in Table 17.

ISO 14001—an international standard that specifies a management system to control the environmental issues surrounding a business. The system requires the organisation to produce a series of environmental objectives and targets, and a management program for achieving these.

KAM-LOK—a coupling system designed for quick interlocking and release of hose fittings.

Local approvals policy (LAP) for the regulation of liquid trade waste: A document that sets out council policy for the regulation of liquid trade waste discharges to its sewerage system. The *Local Government Act 1993* (Part 3 of Chapter 7) sets out the requirements for the preparation of a local approvals policy.

Liquid trade waste—all liquid waste other than sewage of a domestic nature discharged to the sewerage system.

Local water utility—refer to 'Council'.

Mandatory concurrence—for the liquid waste in Classification C, councils need to obtain concurrence for approval of each discharge. The Water Utilities Branch of the Department of Planning, Industry and Environment provides concurrence on behalf of the department's Secretary.

Methylene blue active substances (MBAS)—anionic surfactants. Their presence and concentration are detected by measuring colour change in a standard solution of methylene blue dye.

Minimal pre-treatment—for the purpose of these guidelines this means sink strainers, dry basket arrestors for sink and floor waste outlet, plaster arrestors and fixed or removable screens.

Mixed business—a general store that sells a variety of goods, and may also prepare some food.

Nightsoil—human excreta deposited in a bucket or other receptacle for manual removal.

Open area—any unroofed process, storage, washing or transport area where rainwater potentially can be contaminated.

Pan—any moveable receptacle kept in a closet and used for the reception of human waste.

PC2 laboratory—a facility handling pathogens that can cause human, plant or animal disease but are unlikely to be a serious hazard to laboratory workers, the community, livestock or the environment.

PC3 laboratory—a facility dealing with pathogens that may cause serious human, plant or animal disease and may present a serious hazard to laboratory workers and a risk if spread in the community or environment.

PFAS—a group of manufactured chemicals containing a component with multiple fluorine atoms, with many specialty applications. Examples are perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). They are used in a range of products such as textiles, leather, cosmetics, non-stick coatings in cookware, food packaging, and in some types of fire-fighting foam. These chemicals take a long time to break down in humans and the environment and their persistence and bioaccumulation potential pose concerns for the environment and human health.

Pit latrine/long-drop toilet/pit toilet—a type of toilet that collects faeces and urine directly into a tank or a hole in the ground.

Portable toilet—toilet in which wastes are deposited into a holding tank. These types of toilet are typically used on construction sites, caravans, motor homes, boats, trains and at outdoor gatherings. If chemicals are used to control odours, it is referred to as a chemical toilet.

pH—a measure of acidity or alkalinity of an aqueous solution, expressed as the logarithm of the reciprocal of the hydrogen ion (H^+) activity in moles per litre at a given temperature. pH 7 is neutral, below 7 is acidic and above 7 is alkaline.

Premises—has the same meaning as defined in the Local Government Act Dictionary and includes any of the following:

- a building of any description or any part of it and the appurtenances to it
- land, whether built on or not
- a shed or other structure
- a tent
- a swimming pool
- a ship or vessel of any description (including a houseboat)
- a van.

Prescribed pre-treatment equipment—standard non-complex equipment used for pre-treatment of liquid trade waste, for example a grease arrestor, an oil arrestor/separator, solids settlement pit/silt arrestor, cooling pit (refer to Table 8).

Primary measurement device—device such as a gauging pit, weir tank or flume installed in the liquid trade waste discharge line suitable for installation of instrumentation for flow measurement.

Quick-break detergent—detergents that are used for cleaning by emulsifying oil into microscopic droplets, with the oil finally breaking away and rising to the surface of the water. The criterion for quick-break detergents is that the emulsion should break completely, and wastewater should separate into oily and aqueous layer within 20 to 30 minutes.

Regional NSW—the areas of the state not serviced by the Sydney Water Corporation or the Hunter Water Corporation.

Regulation—Local Government (General) Regulation 2005 under the *Local Government Act 1993.*

Safety data sheets (SDS)—a document that provides information and a profile of a particular compound or a mixture. It usually contains physical and chemical properties, health hazard information, advice on first aid, and safe handling and disposal procedures.

Secretary—the head of the NSW Department of Planning, Industry and Environment.

Septage—material pumped out from a septic tank during desludging. It contains partly decomposed scum, sludge and liquid.

Septic tank—wastewater treatment device that provides a preliminary form of treatment for wastewater. It provides sedimentation of settleable solids, flotation of oils and fats, and anaerobic digestion of sludge.

Septic tank effluent—the liquid discharged from a septic tank after treatment.

Sewage management facility—a human waste storage facility or a waste treatment device intended to process sewage, and includes a drain connected to such a facility or device.

Sewage of a domestic nature—human faecal matter, urine, and wastewater associated with ordinary kitchen, laundry and ablution activities of a household. It does not include waste in or from a sewage management facility.

Sewerage system—the network of sewage collection, transportation, treatment and by-products (effluent and biosolids) management facilities.

Sewage treatment works—facility designed to treat sewage. The level of treatment will vary based on the expected quality of the effluent.

Ship-to-shore pump-out—liquid waste from a vessel that may be considered for disposal to the sewerage system. This includes on-board toilet wastes, galley wastes, and dry-dock cleaning waste from maintenance activities.

Sludge—the solids that are removed from wastewater by treatment.

Sludge lagoon—a basin for receiving and stabilising sludge from a sewage treatment process.

Stormwater run-off—run-off resulting from rainfall.

Surfactants—the key active ingredient of detergents, soaps, emulsifiers, wetting agents and penetrants. Anionic surfactants react with a chemical called methylene blue to form a blue-chloroform-soluble complex. The intensity of colour is proportional to concentration.

Suspended solids (SS)—the insoluble solid matter suspended in wastewater that can be separated by laboratory filtration and is retained on a filter.

Total dissolved solids (TDS)—total amount of dissolved material in the water.

Total Recoverable Hydrocarbons (TRH)—Both biological and petroleum hydrocarbons which have been extracted (recovered) from a sample. TRH are equivalent to the previously reported Total Petroleum Hydrocarbons (TPH). TRH is reported in fractions with Carbon chain (C_6 – C_{40}). TRH with carbon chain C_6 – C_{10} are flammable.

Waste minimisation—procedures and processes implemented by industry and business to modify, change, alter or substitute work practices and products that will result in a reduction in the volume and/or strength of waste discharged to sewer.

1 Introduction

1 Introduction

1.1 Purpose of the guidelines

This Liquid Trade Waste Management Guidelines has been prepared to help councils undertake best-practice regulation of sewerage and liquid trade waste in regional NSW.

The NSW framework for the regulation of sewerage and liquid trade waste is described in s. 1.7 and is consistent with the National Framework for Wastewater Source Management set out in the *Australian Sewage Quality Management Guidelines, June 2012,* Water Services Association of Australia (WSAA).

These Liquid Trade Waste Management Guidelines simplify approval of liquid trade waste discharges by:

- setting out a process for approving liquid trade waste discharges to the sewerage system in situations where council has been given notice that it may assume concurrence to its approval
- encouraging councils with significant experience in liquid trade waste regulation to apply for authorisation to assume concurrence for medium-risk liquid trade waste and human waste tankered to the sewerage system
- providing detailed information to assist councils in their approval of the above liquid trade waste discharges
- providing practical advice on the preparation of a liquid trade waste policy for the regulation of liquid trade waste discharges.

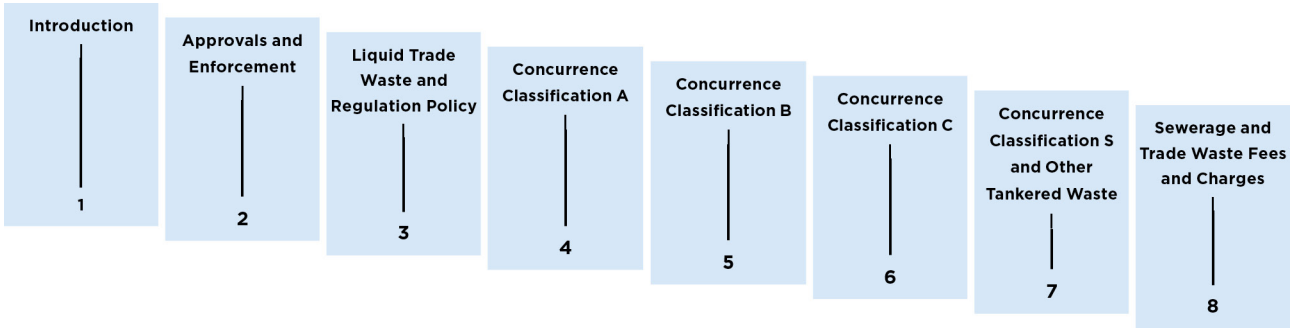
These guidelines update and extend the following documents:

- *Concurrence Guidelines for liquid trade waste discharges to the sewerage system, 2002*
- *Liquid Trade Waste Management Guidelines, 2005*
- *Liquid Trade Waste Regulation Guidelines, 2009.*

The *Model Policy for Discharge of Liquid Trade Waste to the Sewerage System, 2009* has been updated accordingly and is available on the department's password-protected website for councils.

1.2 Structure of these guidelines

Figure 1. The eight major sections of these guidelines



These guidelines comprise the following eight main sections on liquid trade waste regulation:

- **1 Introduction** explains the purpose and contents of these guidelines, and the concepts of concurrence for liquid trade waste discharged to the sewerage system. It describes the legislative framework for the approval of applications for liquid trade waste discharges and the NSW framework for regulation of sewerage and liquid trade waste. It also outlines the four concurrence classifications for the approval of liquid trade waste discharges.
- **2 Approval and enforcement** describes the five steps councils will usually need to follow when approving discharges of liquid trade waste to their sewerage system.
- **3 Liquid trade waste regulation policy** discusses requirements for the acceptance of liquid trade waste discharges to the sewerage systems in regional NSW.
- **4 Concurrence Classification A** involves approval of 'low-risk' liquid trade waste for which councils have been granted assumed concurrence. This chapter outlines factors to consider in approving the discharge of these wastes, conditions of approval and minimum pre-treatment requirements.
- **5 Concurrence Classification B** involves concurrence to approval for 'medium-risk' liquid trade waste and sets out the factors to consider in approving these discharges. It encourages councils with significant experience in liquid trade waste regulation to apply for authorisation to assume concurrence to approve such discharges and explains the application procedure. It provides detailed information on the minimum pre-treatment requirements for liquid trade waste discharges and the recommended conditions of approval.
- **6 Concurrence Classification C** involves concurrence to approval for 'high-risk' liquid trade waste. This chapter outlines information to be provided to support the application and sets out the factors to be taken into consideration in assessment of these discharges.
- **7 Concurrence Classification S** involves concurrence to approval for accepting human waste from on-site sewage management facilities. It provides guidance on the management of human waste tankered to sewage treatment facilities, discharges of waste from dump points and ship-to-shore pump-out facilities. It also indicates the information needs to be provided by the applicant to support the application and sets out the factors that council needs to consider in approving acceptance of the wastes, as well as drafting conditions of approval. Councils with significant experience in liquid trade waste regulation are encouraged to apply for authorisation to assume concurrence to approve Classification S discharges.
- **8 Sewerage and liquid trade waste fees and charges** describes sewerage and liquid trade waste fees and charges and provides guidance and a methodology for calculating fees and charges.

In addition, nine appendices address specific areas of liquid trade waste regulation.

1.3 Who these guidelines are for?

The department has prepared these guidelines for council staff who manage the approval, monitoring and cost recovery for sewage and liquid trade waste discharges to the sewerage system.

Staff who manage the approval of development applications will also find these guidelines useful, particularly for developments that include a proposal to discharge liquid trade waste to the sewerage system.

These guidelines are not targeted at the general public but contain information on the management of liquid trade waste for businesses and dischargers in regional NSW.

1.4 What is liquid trade waste?

Liquid trade waste is defined in the Local Government (General) Regulation 2005 as 'all liquid waste other than sewage of a domestic nature'.

Liquid trade waste includes non-domestic liquid waste discharges to council's sewerage system from:

- industrial premises
- business/commercial premises (such as beautician, florist, hairdresser, hotel, motel, restaurant, butcher, supermarket, etc.)
- community/public premises (including clubs, schools, colleges, universities, hospitals and nursing homes)
- any commercial activities carried out at a residential premises
- saleyards, racecourses, stables and kennels that are not associated with domestic households
- tankered human waste, ship-to-shore waste from marina pump-out facilities, portable toilet waste and established sites for the discharge of pan contents from mobile homes/caravans
- any other waste tankered to the sewerage facilities, such as commercial or industrial waste from areas that are not sewered.

Liquid trade waste excludes:

- toilet, hand wash basin (used for personal hygiene only), shower and bath wastes derived from all the premises and activities mentioned above
- wastewater from residential toilets, kitchens, bathrooms or laundries (i.e. domestic sewage)
- wastewater from common laundry facilities in caravan parks (discharges from common kitchen facilities in caravan parks are liquid trade waste)
- residential pool backwash.

These guidelines do not address the management and discharge of liquid waste to destinations other than the sewerage system, such as to waterways or onto land.

Note:
Liquid trade waste has commonly been referred to as 'trade waste', 'industrial effluent', 'trade effluent', or more recently 'trade wastewater'. The term 'liquid trade waste' is used throughout these guidelines.

1.5 The legislative framework

As part of an ongoing strategy, the NSW Government committed to greater protection of the environment, better public health and safety, and a strong economy for the community. To meet these objectives, the government has created a legislative framework by introducing a number of statutes. Those of particular relevance to liquid trade waste regulation in regional NSW are:

- *Local Government Act 1993*
- *Protection of the Environment Operations Act 1997*
- *Water Management Act 2000.*

Other legislation that may be relevant includes:

- *Environmental Planning and Assessment Act 1979*
- *Work Health and Safety Act 2011*
- *Plumbing and Drainage Act 2011*
- *Public Health Act 2010*
- *Environmentally Hazardous Chemicals Act 1985.*

The statutes provide a range of tools to help better regulate and price liquid trade waste. These include planning controls, approvals, levying of appropriate sewerage and liquid trade waste fees and charges, notices, orders, enforcement and prosecution.

Photo of a sewage treatment works in regional NSW

1.5.1 Legislation underlying approvals and concurrence

Councils are responsible for approving liquid trade waste discharges to their sewerage systems through s. 68 of the *Local Government Act 1993.* However, s. 90 (1) of the Act and cl. 28 of the Local Government (General) Regulation 2005 require them to obtain concurrence to council's approval to discharge liquid trade waste to its sewerage system from the Secretary, Department of Planning, Industry and Environment. The department's Water Utilities Branch provides concurrence on behalf of the Secretary.

Appendix B lists the key sections in the Local Government Act and the clauses in the associated Regulation relevant for the approval, pricing, monitoring and enforcement of liquid trade waste discharges to the sewerage system. It also lists the relevant sections of the *Water Management Act 2000.*

1.6 Council's responsibility for liquid trade waste

Sewerage systems are designed to safely collect, transfer and treat wastewater, mostly of domestic origin. However, these systems may also be capable of accepting liquid trade waste provided that the discharges are planned, known and controlled within acceptable limits.

In the absence of suitable controls and pricing, the liquid trade waste may have adverse impacts on the sewerage system, the environment and the health and safety of workers and the public.

It is therefore important that councils implement best-practice in administering, regulating, monitoring and pricing sewerage and liquid trade waste.

1.6.1 Employee awareness and training

In order to successfully regulate its sewerage and liquid trade waste services in accordance with the NSW framework, each council needs to ensure its employees maintain appropriate experience and qualifications. Council needs to provide appropriate training to ensure its employees have the necessary skills. Employees should also be encouraged to participate in decision-making in their areas of responsibility.

1.7 The NSW Framework for Regulation of Sewerage and Liquid Trade Waste

The NSW framework is driven by the NSW Government's *Best Practice Management of Water Supply and Sewerage Guidelines, 2007*. Sound regulation of sewerage and liquid trade waste is a key element of the 2007 guidelines, and requires each council to implement all the following integrated measures:

- preparation and implementation of a sound liquid trade waste regulation policy (refer to chapter 3), assessment of each liquid trade waste application, and determination of appropriate conditions of approval (refer to chapter 2). Conditions must be consistent with council's integrated water cycle management strategy and demand management plan
- preparation and implementation of a sound development servicing plan, with commercial sewerage developer charges to ensure new development pays a fair share of the cost of the required infrastructure
- full cost recovery with appropriate sewer usage charges and liquid trade waste fees and charges in order to provide the necessary pricing signals to dischargers. These charges must include non-compliance trade waste usage charges and non-compliance excess mass charges in order to provide the necessary incentives for dischargers to consistently comply with their conditions of approval
- monitoring, mentoring and coaching of dischargers in order to achieve cleaner production and assist them to comply with their conditions of approval
- enforcement, including appropriate use of penalty notices in the NSW legislation. Orders may also be issued under the *Local Government Act 1993* (see s.2.8.3 of these guidelines)
- disconnection of a liquid trade waste service in the event of persistent failure to comply with council's conditions of approval (see s.2.8.5 of these guidelines).

Together, the above six measures comprise the NSW Framework for Regulation of Sewerage and Trade Waste. The framework involves a preventive risk management approach, which has been developed to address the use of common pool resources by providing economic incentives for dischargers to minimise their waste and to consistently comply with their conditions of approval.

1.8 Alignment with the National Framework for Sewage Quality Management

The 12 elements of the National Framework for Sewage Quality Management are set out in the *Australian Sewage Quality Management Guidelines, June 2012*, WSAA and are shown in Appendix I.

In particular, under the *Best Practice Management of Water Supply and Sewerage Guidelines* each council must achieve the following outcomes, which are matched against the elements indicated in the *Australian Sewage Quality Management Guidelines* as listed below:

- prepare and implement a 30-year integrated water cycle management strategy, demand management plan, pay-for-use water supply pricing, and community and customer involvement (elements 1, 6, 8)
- annual performance monitoring, including an annual triple-bottom-line performance report and action plan that identifies and addresses any areas of under-performance (elements 5, 6, 9, 10, 11, 12)
- full cost recovery for water supply, sewerage and liquid trade waste services and apply an appropriate non-residential sewer usage charge (elements 3, 8)
- prepare and implement a sound liquid trade waste regulation policy and issue an appropriate approval to each liquid trade waste discharge, including waste minimisation and cleaner production (elements 1, 2, 3, 4, 7, 8)
- appropriate liquid trade waste fees and charges, including incentives to comply with council's approval conditions through non-compliance trade waste usage charges and non-compliance excess mass charges (elements 3, 8)
- liquid trade waste services agreement for large discharges to assure compliance (elements 3, 8)
- appropriate training of council staff and monitoring, mentoring and coaching of liquid trade waste dischargers (elements 1, 4, 5, 7, 8)
- enforcement, including appropriate use of penalty notices or orders (elements 3, 8)
- disconnection of a liquid trade waste service in the event of persistent failure to comply with council's conditions of approval (element 8).

1.9 Concurrence classifications

These guidelines establish a process for approval and regulation of liquid trade waste discharges to the sewerage system.

For concurrence purposes, four classifications of liquid trade waste have been established: Classifications A, B, C and S. Concurrence classifications A, B and C are based on the level of risk, i.e. low-risk, medium-risk and high-risk liquid trade waste, respectively. Classification S is involved with human waste (tankered) from on-site sewage management facilities, dump points and ship-to-shore pump-outs.

- **Concurrence Classification A** liquid trade waste has 'automatic assumed concurrence'. This means that for waste in this classification, all councils can assume concurrence to the approval without forwarding individual applications to the department, if it complies with requirements outlined in chapter 4 of these guidelines. Council must submit a report annually on approved discharges in this classification.
- **Concurrence Classification B** liquid trade waste has 'assumed concurrence on application'. For waste in this classification, council may apply to the department for authorisation to assume concurrence. The department will grant concurrence, including approval of liquid trade waste discharges with undersized grease arrestors, if the requirements outlined in chapter 5 of these guidelines are satisfied. Council must submit an annual report on approved discharges.
- **Concurrence Classification C** liquid trade waste requires 'mandatory concurrence', meaning that council will need to obtain concurrence from the department for each application.
- **Concurrence Classification S** involves human waste from on-site sewage management facilities. For waste in this classification, council may apply to the department for authorisation to assume concurrence. Assumed concurrence will be granted for some liquid wastes if council satisfies the requirements outlined in s.7.3 of these guidelines. Concurrence to approval is required for each application where the waste is not nominated in the notice of assumed concurrence, or council has not been granted such notice. Again, council must submit an annual report on approved discharges.

Where liquid trade waste discharge from a single premises includes more than one classification, the highest classification applies. For example, if a business/industry generates three liquid trade waste streams and two streams fall within Concurrence Classification A and one falls within Concurrence Classification B, the application must be considered as Concurrence Classification B.

There are non-residential liquid wastes that may be tankered to the sewage treatment works from unsewered areas. These may include liquid waste generated by commercial and/or industrial businesses. The management of such waste is described in s.7.6 of these guidelines.

1.9.1 Concurrence Classification A—automatic assumed concurrence

Concurrence Classification A is for low-risk liquid trade waste requiring no or standard, non-complex pre-treatment equipment.

Concurrence Classification A includes liquid trade waste discharges where:

- the waste poses a low risk to the sewerage system, the environment and public, or worker health and safety
- no pre-treatment is required, or there are prescribed standard, non-complex pre-treatment devices available to treat the waste to a satisfactory level
- the liquid trade waste volume is up to 5 kL/d, except in the case of commercial retail food preparation activities where up to 16 kL/d is allowed.

However, where more than four Concurrence Classification A discharges are generated from one premises or complex, such as a shopping arcade, small shopping complex, or educational facility, the discharges must be treated as Concurrence Classification B. This requirement does not include discharges that council may exempt from obtaining approval (refer to Table D1 in Appendix D).

Table 9 and Table 10 list those activities that generate discharges classified as Concurrence Classification A. All councils have been granted assumed concurrence for approving applications in Classification A discharges to the sewerage systems, subjected to conditions (Appendix A).

Automatic assumed concurrence is not available for approving applications where an applicant proposes:

- an alternative type of pre-treatment to that listed in chapter 4 of these guidelines
- nil pre-treatment where pre-treatment is required under these guidelines
- pre-treatment equipment that is undersized[1]
- to discharge waste from a grease arrestor with an individual capacity > 5000 L
- to discharge some stormwater from an open or partially roofed area
- to connect solid food waste processing units such as food digesters and composters to the sewerage system (refer to s.3.2.2.10)

All such applications must be referred to the department for concurrence.

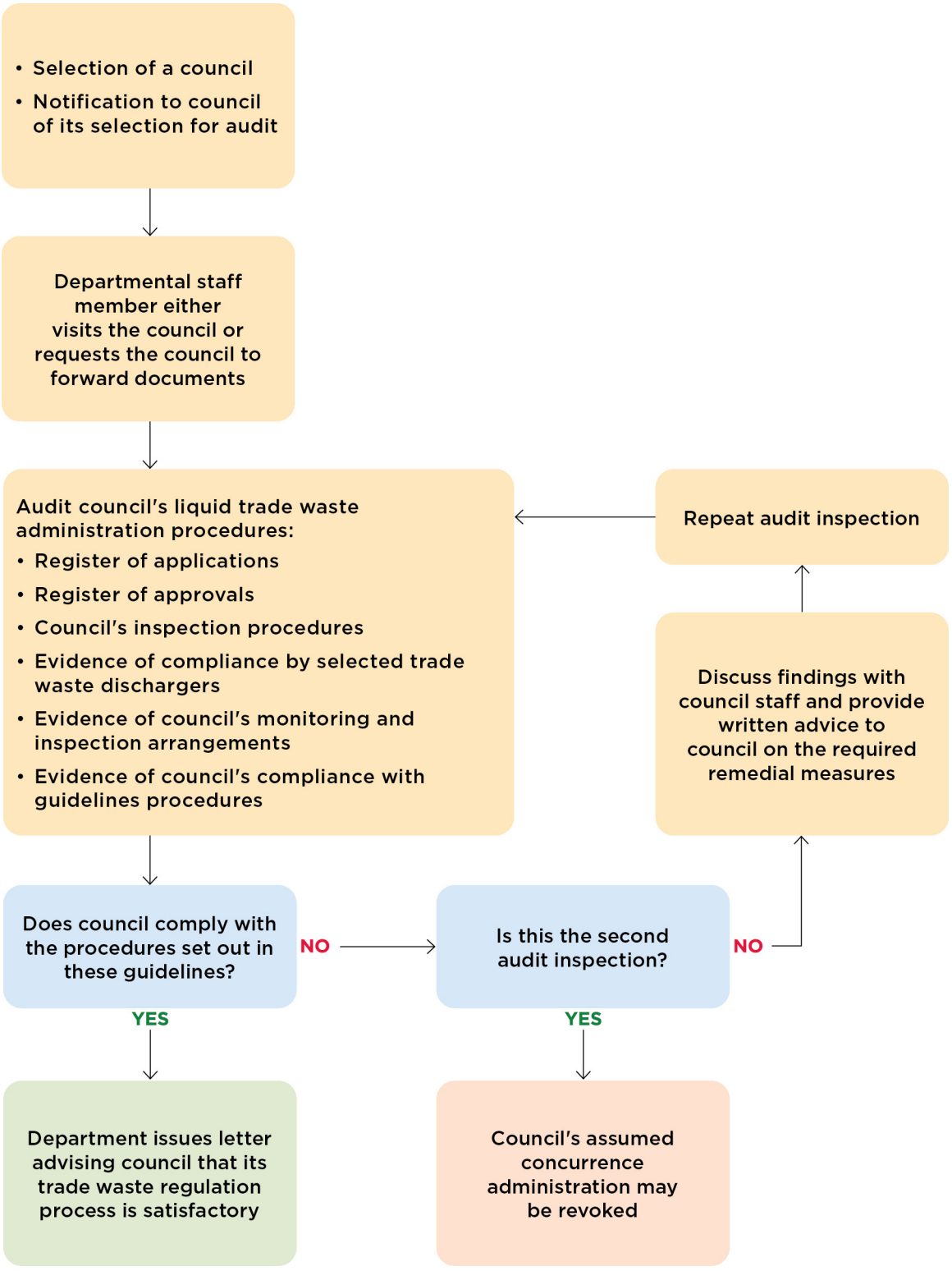
It is a condition of the assumed concurrence that council must provide the department with a list of the liquid trade waste discharges it has approved as Concurrence Classification A. An annual reporting form is provided in Appendix A.

Councils may be audited by the department from time to time to ensure that they are complying with the above requirements. Figure 2 illustrates the key steps in the auditing process.

The full process for approving Concurrence Classification A, discharges is described in chapter 4. The list of activities in Table 9 and Table 10 may be reviewed by the department in response to new developments. Councils will be provided with written notification of any amendments.

1 Assumed concurrence is available to councils for premises with an undersized grease arrestor subject to satisfying the requirements of s. 5.1.3.

Figure 2. Auditing procedure for assumed concurrence



1.9.2 Concurrence Classification B—assumed concurrence available

Concurrence Classification B comprises medium-risk liquid trade waste where councils may apply for assumed concurrence. Assumed concurrence may be granted if council meets the requirements in chapter 5 (refer to ss. 5.1.2 and 5.1.3).

Classification B discharges are defined as:

- discharges from all commercial retail activities listed in Table 13 that do not exceed the volume limit indicated
- discharges from any Classification A activity (as listed in Table 9 and Table 10) that exceeds the Classification A volume limit (16 kL/d for food-related activities and 5 kL/d for others)
- more than four concurrence Classification A discharges from a single premises or a complex. This requirement does not include activities shown on the exemption list (refer to Appendix D)
- discharges where the maximum daily discharge volume does not exceed 20 kL.

Councils may be audited by the department from time to time to ensure that they are complying with the above requirements, if assumed concurrence has been granted (refer to Figure 2).

The full process for approving Concurrence Classification B discharges is set out in chapter 5.

1.9.3 Concurrence Classification C—mandatory concurrence

Concurrence Classification C comprises high-risk and large liquid trade waste discharges where concurrence by the department must be sought by council for each application. These comprise any:

- discharges in Classification A or Classification B that exceed a discharge volume for:
  - Classification A of 20 kL/d
  - Classification B as indicated in Table 13
- discharge not nominated in classifications A or B (refer to chapters 4 and 5).

1.9.4 Concurrence Classification S—concurrence for acceptance of human waste from on-site sewage management facilities

Concurrence Classification S comprises:

- human waste, tankered to council's facility, such as:
  - septic tank waste (effluent and septage)
  - ablution block waste (blackwater and greywater)
  - portable toilet waste
  - sludge from on-site aerated wastewater treatment systems for single households
  - waste from pit toilets (except composting toilets)
  - night soil
- waste from dump points—toilet waste and/or greywater received from facilities on a bus or a recreation vehicle (RV), for instance a caravan or motor home
- waste from ship-to-shore pump-out facilities—these facilities receive toilet waste and/or greywater from a navigable vessel.

Councils may apply to obtain assumed concurrence for approval of discharges in this classification. Such requests are to be forwarded to the department's Water Utilities Branch. The department may grant assumed concurrence to council if it meets the requirements in chapter 7 (refer to s. 7.3).

Concurrence to council's approval is required before acceptance of waste in this classification if:

- council has not been granted assumed concurrence for this classification
- the proposed waste is not nominated in the notice of assumed concurrence.

Any other tankered waste not listed above is not included in Classification S liquid trade waste. These types of waste need to be managed in accordance with the concurrence classification relevant to the activity (refer to s. 7.6).

Councils may be audited by the department from time to time to ensure they are complying with the requirements for accepting Classification S wastes.

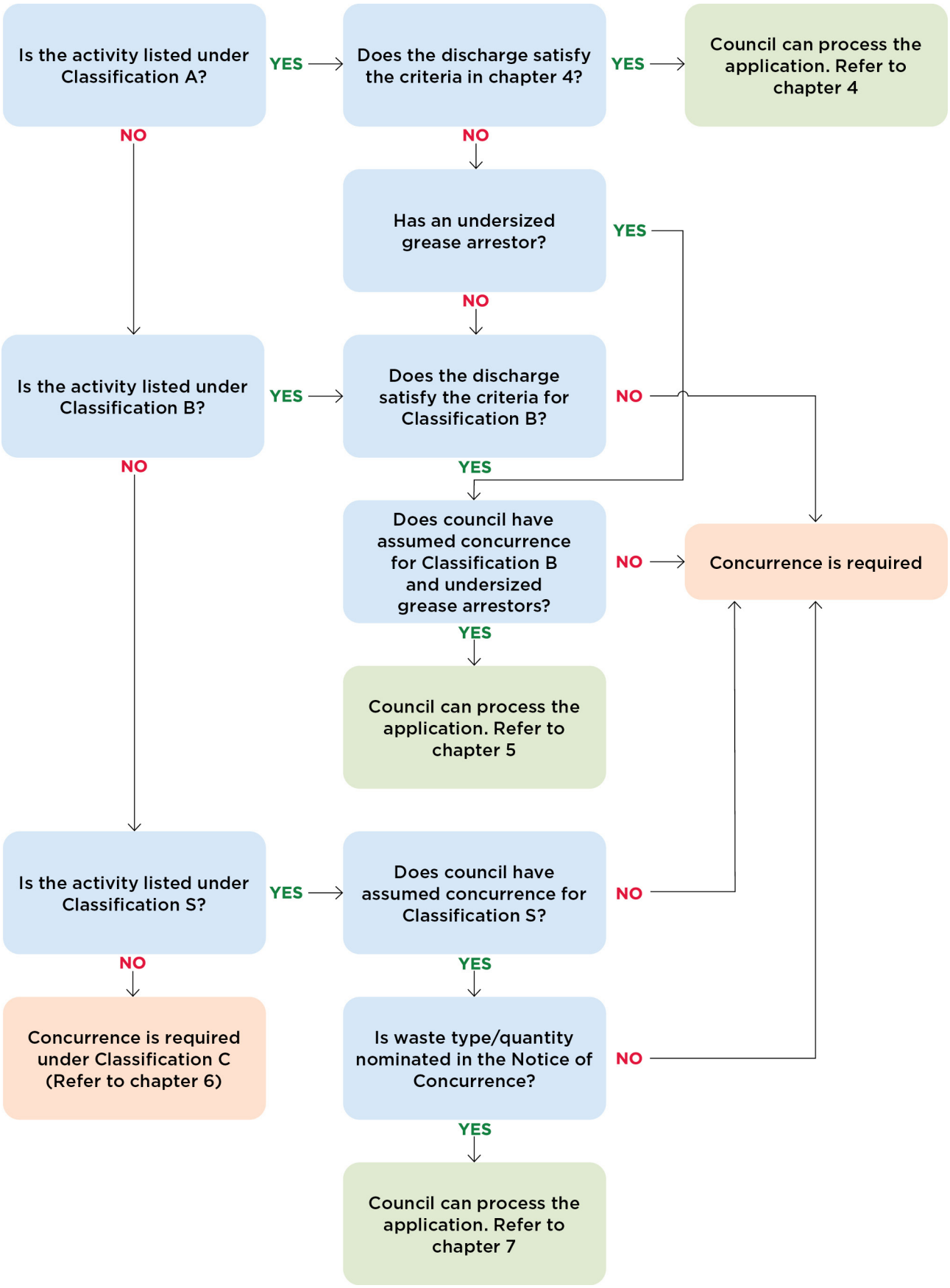
Note:
Waste from composting toilets is prohibited from discharge to any part of the sewerage system.

1.9.5 When concurrence is required

Councils must seek concurrence for the following approvals:

- all liquid trade waste discharges in Classification C
- where a discharge is listed under Classification A or B, but the discharge does not satisfy criteria for the classification relevant to the proposal (refer to Figure 5 and Figure 6)
- all approvals in Classification B if council has not been granted assumed concurrence for this classification
- approvals in Classification S, if council has not been granted assumed concurrence for this classification or the waste is not nominated in the notice of assumed concurrence issued to council (refer to s. 7.3).

Figure 3. When concurrence is required



2 Approval and enforcement

2 Approval and enforcement

This chapter describes the process for approving liquid trade waste discharged to the sewerage system. Reviewing and approving applications from all liquid waste discharges to the sewerage system is the responsibility of each council.

All councils have assumed concurrence for Classification A discharges, if they satisfy the requirements outlined in chapter 4. Councils also can apply to obtain assumed concurrence for Classification B and S discharges and discharges from undersized grease arrestors.

Concurrence to council's approval is required for all liquid trade waste applications unless council has obtained assumed concurrence for classifications B and S discharges, subject to complying with requirements (refer to chapters 5 and 7).

Each council needs to develop its own liquid trade waste approval process and may use this chapter as a guide.

2.1 The approval process

Councils have a number of statutory responsibilities for the approval of liquid waste discharged to their sewerage system, as set out in the *Local Government Act 1993* and the Local Government (General) Regulation 2005. As stated in s. 68 of the Local Government Act, a person wishing to discharge liquid waste must first obtain council's approval. Under the Act, councils are ultimately responsible for the acceptance of these discharges.

However, under s. 90 (1) of the Act and cl. 28 of the Regulation, council needs to obtain concurrence to its approval, unless it has assumed concurrence.

The Act and the Regulation underpin the approval process. As part of the approval process, the Act empowers councils to issue penalty infringement notices and orders, deal with offences, and exercise enforcement. Enforcement is discussed in s. 2.8 of these guidelines.

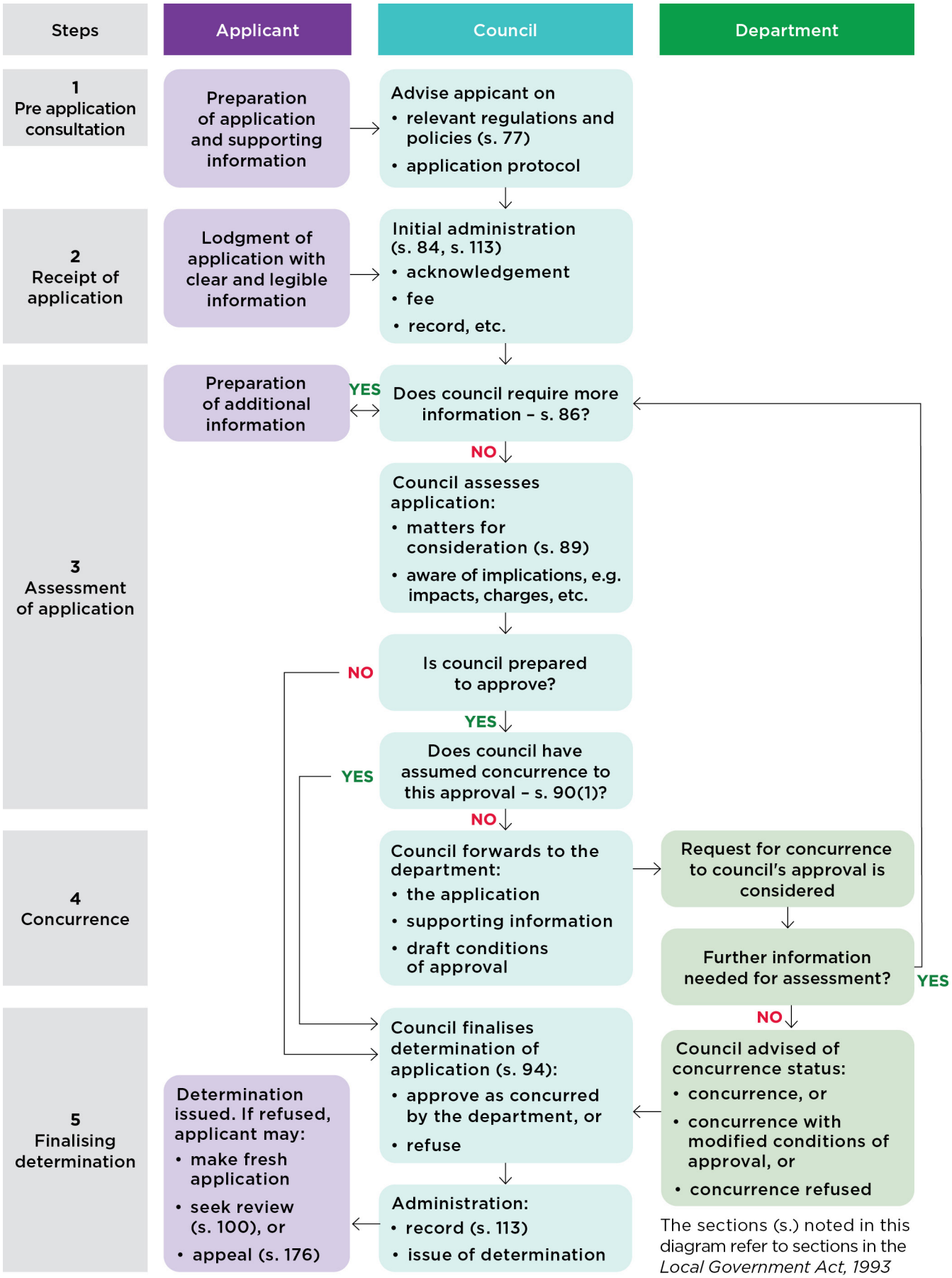
2.2 The five steps to approval

The approval process involves five steps:

- Step 1—pre-application consultation
- Step 2—receiving the application
- Step 3—assessing the application
- Step 4—seeking concurrence
- Step 5—finalising the determination.

The following sections (2.3 to 2.7) describe each of the five steps councils may follow in approving liquid trade waste discharges to the sewerage system. Not all of the steps are required in every case, but many applications will follow this general pattern. Figure 4 illustrates the five steps, including references to the relevant legislation where appropriate.

Figure 4. Approval process for liquid trade waste applications



The sections (s.) noted in this diagram refer to sections in the *Local Government Act, 1993*

2.3 Step 1: Pre-application consultation

Sometimes approval of a development application (DA) may be required for an activity that generates a liquid trade waste discharge. Applicants tend to seek approval of a DA prior to, and independently of, the approval for the discharge of liquid trade waste to the sewerage system. Often, applicants may be unaware that a liquid trade waste approval is required in addition to the DA approval, prior to commencing discharge.

Council's planning staff should, during the pre-lodgement stage of a DA, help the applicant by identifying all the approvals that will be required and the supporting information needed for each application.

It is imperative that council's planning staff at the DA stage:

- identify whether there is any liquid waste other than domestic sewage is generated from the activities proposed to be conducted and
- how such wastewater is proposed to be managed.

If such wastewater is proposed to be discharged to a council's sewerage system, council's planning staff needs to liaise with its liquid trade waste regulation staff prior to DA approval in order to identify the liquid trade waste regulatory requirements and communicate such information to the applicant at the DA stage.

These requirements may include identifying and installing appropriate on-site pre-treatment equipment or making provisions to install necessary equipment at a later stage as providing such equipment after the completion of development would be cost prohibitive. Council's liquid trade waste staff will also be able to identify the waste streams that will not be accepted into council's sewerage system at the DA stage and may discuss with the proponent on management options for such waste.

Also, council's staff needs to:

- let the applicant know that a liquid trade waste approval will be required
- give the applicant a copy of the liquid trade waste application form and indicate the likely concurrence classification of the proposed waste discharge and the supporting information that the applicant needs to provide with the application
- give information on relevant policies, particularly those relating to liquid trade waste including liquid trade waste fees and charges.

2.3.1 Approval to carry out sewerage or stormwater drainage work

Council's approval is required under s. 68 of the Local Government Act for carrying out sewerage work (i.e. on-site plumbing work). Activities that generate liquid trade waste will usually require an approval to carry out sewerage work, in addition to an approval to discharge liquid trade waste.

For example, a pipe conveying the discharges and any pre-treatment equipment will need to be connected to the sewerage system. The connections to the sewerage system are on-site plumbing work. Inspection of such pipework, including any liquid trade waste pre-treatment equipment, holding tanks, etc., is the responsibility of council.

S. 68 of the Act also requires a person to seek council's approval for carrying out stormwater drainage work (i.e. on-site drainage work). Such works may be required on premises that generate liquid trade waste.

Having council's staff work with applicants before either a DA or liquid trade waste application is lodged can yield significant benefits for both the applicant and council.

2.4 Step 2: Receiving the application

Applications to discharge liquid waste to the sewerage system must be lodged with council using a dedicated application form. To assist councils, an example of a combined application form for Concurrence Classifications A[2], B, C and S is provided in Appendix C. Councils may develop their own application form but need to ensure that forms include all information necessary for the assessment of the liquid trade waste application.

2.4.1 Information requirements for liquid trade waste applications

In accordance with cl. 25 of the Local Government (General) Regulation, applications must include information shown in Table 1. Any other information submitted as part of seeking other approvals (for example environmental studies, plumbing and drainage diagrams) should also be included, if relevant.

Photo of a sewage treatment works in regional NSW

2 Classification A applications require completion of only pages 1 to 3 and 10 of the Form C1, provided in Appendix C. If council adopted a Liquid Trade Waste Policy that includes 'deemed to be approved' discharges, such waste dischargers do not need to apply to council for approval (refer to s. 3.3.3).

Table 1. Information requirements for liquid trade waste applications

Required information

• Applicant's full name, address and contact details
• Site owner's full name, address and contact details, if different to the applicant
• Address of the business/industry where discharge to sewerage system will occur
• Contact person and contact details for the premises
• Proposed date of commencement of discharge to the sewerage system
• Type of process/activity generating liquid waste
• Hours of business operation
• Proposed rate of discharge, including:
  ◦ maximum per day and per hour (if applicable)
  ◦ hours of the day during which discharge takes place
• Proposed pre-treatment equipment including:
  ◦ type and details (e.g. model)
  ◦ size
  ◦ operational procedures
  ◦ details on equipment maintenance
• Site plan, including:
  ◦ liquid waste pre-treatment facilities
  ◦ internal wastewater drainage
  ◦ location of sampling points
  ◦ proposed connection point to the sewerage system
  ◦ stormwater drainage plan

Additional information required for applications in Concurrence Classification B or C
• Flow diagram and hydraulic profile of any proposed pre-treatment facilities
• Physical and chemical characteristics of the proposed discharge, including:
  ◦ nature of source
  ◦ expected maximum and average concentrations of pollutants, and
  ◦ temperature and pH
• Nature and chemical composition of all substances stored/used on-site
• Details of storage facilities
• Relevant safety data sheets
• Location of flow measurement point and proposed methods
• Proposed arrangements for the disposal of other wastes not discharged to the sewerage system
• Any relevant environmental impact assessments
• Consultant report (if applicable)
• Any additional details as requested by council

Additional information required for applications in Concurrence Classification S is shown in s. 7.4.2.

Where development consent and a liquid trade waste approval are both required (and council is the determining authority for both), an applicant may apply for both approvals in the DA. Applicants must be advised to consult with council before doing this. The ability to apply for both approvals in one development application is provided under s. 4.12 of the *Environmental Planning and Assessment Act 1979.*

2.4.1.1 Request for more information

Council may request an applicant to provide additional information necessary for the proper determination of the application.

The request must be made within 21 days after council receives the application in accordance with s. 86 of the Local Government Act. The information must be provided by the applicant within a reasonable period specified by council.

2.4.2 Who can make the application?

S. 78 of the Local Government Act states that an application may be made by the person seeking to carry out the activity or, if the application applies to a particular land, the owner of the land or a person who has the consent of the owner.

In most cases, the occupier (person or business) makes the application but is required under s. 78 of the Act to have the written permission of the owner of the land, if the occupier is not the owner.

It is possible for the owner to make the application and, if approved, pass on all requirements and conditions of approval to the occupier through the lease arrangement or 'effective transmission of approval'.

2.4.2.1 Applications by the Crown

If the Crown is the owner of the land on which the premises stands, the application may be made by, or with the consent of, the relevant minister or a person authorised by the minister.

2.4.3 Validity of existing approval

New approval is required where there is a change of:

- approval holder (either owner or occupier)
- activity generating the waste or the nature of liquid trade waste
- approval conditions.

New approval is not required where there is a change of:

- owner, if the occupier is the approval holder. New owner's consent is required to continue the discharge (i.e. for the existing approval). The occupier needs to notify council in advance of change of ownership to allow updating of records
- occupier, if owner is the approval holder and the activity generating waste including the nature of waste is unchanged (the owner needs to notify council in advance of change of occupier to allow updating of records).

Table 2 provides a summary of validity of approval with the change of approval holder.

Table 2. Approval validity with change of owner/occupier

Approval holder	Change of occupier	Change of owner
• Owner	• No new approval • Notify council to update record	• New approval is required
• Occupier	• New approval is required	• No new approval • New owner's consent is required to continue

2.5 Step 3: Assessing the application

2.5.1 Factors to consider

Council is responsible for deciding whether to approve or refuse a liquid trade waste application. Its decision to accept liquid trade waste to its sewerage system needs to be based on the preventative risk management framework for managing risks to the sewerage system within an integrated water cycle management context. In determining the acceptance of liquid trade waste to the sewerage system, council must take a number of matters into consideration, as set out in s. 89 of the Local Government Act. There are also other matters specific to liquid waste discharged to the sewerage system that need to be taken into account. These are as listed in Table 3.

Table 3. Factors to consider in assessing liquid trade waste applications

Factors to consider
• The potential for the proposed waste discharge to impact on public health
• The possible impacts the discharge may have on the environment (land, water, air, noise or nuisance)
• The potential impacts of the discharge on the health and safety of council employees
• The possible impact of the discharge on sewerage infrastructure or sewage treatment processes
• The capability of the sewerage system (reticulation and treatment components) to accept the quality and quantity of liquid waste proposed for discharge
• The impact on the ability of the sewerage system to meet licence requirements (e.g. under the *Protection of the Environment Operations Act 1997*)
• The potential impacts of the discharge on management practices for effluent and biosolids produced from the sewage treatment process
• Compliance of the proposed liquid waste discharge with guideline limits in council's Liquid Trade Waste Policy[3]
• The adequacy of the pre-treatment process(es) to treat the liquid waste to a level acceptable for discharge to the sewerage system, including proposed safeguards in an event of the pre-treatment system's failure
• The adequacy of the proposed maintenance program of pre-treatment facilities and the effluent monitoring program (if applicable)
• The adequacy of chemical storage and handling facilities, and the proposed safeguards for preventing the chemicals entering to the sewerage system
• Proposed management of liquid waste not discharged to the sewerage system and safeguards to avoid any accidental discharge of these wastes to the sewerage system
• The potential for stormwater ingress into the sewerage system and adequacy of stormwater control
• Waste minimisation and water conservation programs
• The adequacy of proposed due diligence program and contingency plan, where required
• The potential for growth of the community

3 The quality of liquid trade waste from some low risk commercial activities in Classifications A and B will exceed guideline limits listed in Table 6 and in council's liquid trade waste policy. As a higher level of pre-treatment is not cost-effective, such waste is acceptable if the discharger installs, maintains and properly operates the required pre-treatment equipment (refer to Table 8, Table 9, Table 11 and Table 16).

2.5.2 Approval process for Crown applications

The Local Government Act has special provisions for processing applications submitted by the Crown. Under s. 72 of the Act, councils must not refuse to grant an approval to the Crown without the consent of the Minister for Local Government or impose a condition of approval without the consent of the minister or the applicant.

In order to simplify the approval process for liquid trade waste applications by the Crown, the minister has delegated his powers for determination of liquid trade waste applications under ss. 72, 73 and 111 of the Local Government Act relating to approval under s. 68 part C4 of the Act to the Secretary, Department of Planning, Industry and Environment.

The approval process is set out in Table 4.

Table 4. Approval process for liquid trade waste applications by the Crown

Steps in the approval process
1. If council intends to approve the application and council has been granted assumed concurrence for such applications, the application needs to be processed as indicated in Figure 4. The conditions of approval must be in accordance with these guidelines relevant to the discharge.
2. For applications that council has not been granted assumed concurrence, council needs to request concurrence to its approval as indicated in s. 1.9.5 of these guidelines.
3. If council intends to refuse the application, it must notify the applicant and forward a copy of the application, supporting documentation and the reasons for council's determination to the Water Utilities Branch of the Department of Planning, Industry and Environment. The Water Utilities Branch will make a determination on the application and notify council and the applicant of its consent to council refusal or its decision not to agree to the refusal and the timeframe for council to submit suitable conditions of approval.
4. If the applicant has any objections to the conditions of approval, council needs to forward to the department a copy of the application, supporting documentation, draft conditions of approval and council's recommendations in regard to the applicant's objections. The department will determine the liquid trade waste application and notify council and the applicant of its determination.
5. The department will notify council and the applicant of the reasons for its determination.
6. If concurrence to the liquid trade waste approval is granted under item 4 above, council needs to finalise the approval and issue the approval to the applicant.
7. Council must not revoke or modify any liquid trade waste approval to the Crown, except with the written consent of the department.

2.5.3 Determination of the application

Councils need to refer to Chapter 7, Part 1, Divisions 2 and 3 of the Local Government Act for general requirements relating to determining applications, including the timeframes for requesting information, making a determination, and issuing a notice of the determination.

At this stage council must decide whether it is likely to approve or refuse the application.

If council decides to refuse the application, it must notify the applicant (refer to s. 2.7.4 of these guidelines) and provide the reasons for refusal.

If council decides to approve the application, it must draft the approval and conditions. As indicated in cl. 32 of the Regulation, these conditions are set out in Table 5, along with other items that need to be specified. To assist council's staff, conditions of approval are provided in Appendix E. Council needs to select appropriate conditions relevant to the discharge. In addition, typical conditions of approval for specific discharges are provided on the department's password protected website.

Table 5. Conditions to the approval of liquid trade waste discharges

Approval conditions
Council may, as a condition of granting an approval to discharge liquid waste to the sewerage system: • require that the volume of waste discharged is measured by a meter or estimated by other means • determine the maximum daily discharge and rate of discharge to the sewerage system, if applicable • determine the characteristics of the waste permitted to be discharged and include maximum pollutant limits, if applicable • set times during which the discharge is permitted • require that specified modifications to works for the treatment of liquid trade waste, or to the treatment methods, are carried out. The approval also needs to include: • name of applicant and location of premises • duration of the approval • requirements to regulate the quantity and instantaneous rate of discharge • pre-treatment requirements • maintenance requirements for pre-treatment equipment • housekeeping related practices/conditions • list of substances and/or waste excluded from discharge to sewer • the type and location of flow measurement, if required • the location of sampling points, frequency and the type of sampling required (composite, discrete, flow proportional, etc.) • reporting requirements, sampling and testing schedule • records to be kept by the applicant. Any conditions that need to be satisfied prior to the commencement of approval (i.e. if a liquid trade waste agreement needs to be signed) • due diligence program and contingency plan requirements • any other matters as may be necessary in the opinion of council.

Photo of a sewage treatment works in regional NSW

2.5.4 Acceptance limits for liquid trade waste discharge

Liquid trade wastes discharged to the sewerage system have the potential to adversely impact the sewerage system (including infrastructure, sewage treatment processes, effluent and biosolids quality), the environment, public and worker health and safety, if adequate controls are not put in place.

Placing limits on the quality of the liquid trade waste and levying of appropriate fees and charges are effective controls for minimising the potential for negative impacts. Refer to Table 6 in chapter 3 of these guidelines for further information on the acceptance limits of liquid trade waste to the sewerage system.

2.5.5 Prohibited substances and waste

Substances prohibited from being discharged into the sewerage system unless specifically approved under s. 68 of the Act are listed in Table 7 in chapter 3 of these guidelines.

2.6 Step 4: Seeking concurrence

2.6.1 Concurrence process

An application should only be forwarded to the department for concurrence if council has decided to approve the application and has drafted its proposed conditions of approval (refer to Figure 4). If council intends to require the discharger to execute a liquid trade waste services agreement (refer to s. 2.7.2), the draft agreement should also be submitted to the department.

2.6.2 Whether concurrence can be assumed or not

The department must respond to a request for concurrence within a set timeframe. Under s. 90(5) of the Local Government Act, concurrence is to be assumed if at least 40 days have passed since concurrence was sought and concurrence has not been expressly refused, or additional information has not been requested.

2.6.3 Information councils need to provide when seeking concurrence

Information that needs to be provided when seeking concurrence is indicated in relevant chapters in these guidelines covering each concurrence classification.

2.7 Step 5: Finalising the determination

2.7.1 Approving the application

Once council has determined to approve the application and concurrence has been granted (where required), council needs to prepare and issue a written approval to the applicant. Best practice for administering the liquid trade waste approval process for small commercial discharges is to issue an 'approval' (i.e. a formal letter accompanied by approval conditions). However, as noted in s. 2.7.2, for certain discharges, including Concurrence Classification C (large discharges and industrial wastes), council may also require execution of a liquid trade waste services agreement.

In this case, council needs to issue a 'deferred commencement approval' under s. 95 of the Local Government Act. Council should also issue a letter requesting the discharger to execute the agreement with council within the specified time frame. The approval will not be operative until the agreement is executed.

In any case, council is required to issue a notice of determination under s. 99 of the Act.

The date of commencement of the approval (and the agreement) would be the date the agreement has been signed by both council and the discharger.

2.7.2 Liquid trade waste services agreements

A liquid trade waste services agreement is a document that clearly states the rights and obligations of both council and the applicant, and lists the conditions under which council will accept the discharge of liquid trade waste.

The liquid trade waste services agreement would be in addition to council's approval under the Local Government Act and is warranted for large dischargers (> 20 kL/d), dischargers of industrial waste, and otherwise where considered appropriate (refer to s. 2.8.4).

To assist councils, a sample agreement is provided on the department's password protected website.

Council may seek legal advice when preparing an agreement regarding the format and legal interpretation of its terms and conditions, if necessary. The liquid trade waste approval is set for a specified period of time. Generally, the agreement will continue until the approval lapses, is revoked or the discharge is ceased in accordance with the approval, whichever is the earlier.

Council and/or the applicant may initiate a renegotiation of an agreement. This needs to be undertaken only where there is sufficient cause to warrant such a variation.

For major liquid trade waste dischargers who could cause considerable damage to the sewerage system or the environment if they failed to comply with their conditions of approval, the department's concurrence will be contingent on council:

- requiring execution of an appropriate liquid trade waste services agreement by the discharger
- having in place best-practice sewerage and liquid trade waste fees and charges, including non-compliance excess mass charges.

2.7.3 Term of an approval

As stated in s. 103 of the Local Government Act, an approval lapses five years after the date from which it is given, unless council specifies another period.

Council may either elect to shorten the duration, or it may extend or renew the approval before it lapses or at any time within three months after the approval lapses (s. 107 of the Act). However, this may only occur if:

- there is 'good cause' for doing so and the terms of the approval are not changed
- the applicant has lodged an application to amend the approval under s. 106 of the Act and the terms of approval are to remain substantially the same.

In some cases, the department will grant the concurrence to councils' approval for an interim period. This may apply in situations where a new manufacturing or pre-treatment process is proposed and data in regard to the quality of the effluent is not available. If the existing discharger does not meet council's acceptance criteria and the proposed effluent improvement plan (EIP) is acceptable to council, liquid trade waste approval can be given for an interim period in order to implement the EIP.

If the activity changes, or there are changes to the pre-treatment process or the quality, quantity or the nature of liquid trade waste, a new application must be lodged and a new approval issued, as the conditions of the approval will now have changed. The new draft approval must, as before, be forwarded to the department for concurrence where council has not already been granted assumed concurrence. If there are no changes to the conditions of the approval, concurrence does not need to be sought for a new term.

2.7.4 Refusing the application

If council decides to refuse the application, or the department does not provide concurrence to council's approval and hence council cannot approve it, council must notify the applicant that the application has been refused and include the reasons for refusal.

The applicant may (under s. 100 of the Local Government Act) within 28 days after the determination was made, request that council review the determination. An applicant who is dissatisfied with council's determination may otherwise (under s. 176 of the Act) appeal to the Land and Environment Court within 12 months.

If council proposes to refuse a liquid trade waste application made by the Crown, it must comply with requirements indicated in Table 4.

2.8 Enforcement

Councils have various powers under the Local Government Act regarding administration of approvals for liquid trade waste discharges to the sewerage system.

2.8.1 Failure to obtain an approval

A person who discharges liquid waste to the sewerage system without obtaining council's approval as required under s. 68 of the Act is guilty of an offence under s. 626 of the Act. Depending on the severity of the situation, council may consider:

- issuing a penalty infringement notice (PIN) as outlined in Schedule 12 of the Local Government (General) Regulation
- issuing orders under s. 124 of the Act requiring or prohibiting activities on the premises
- prosecution under the Act (s. 626 specifies the maximum penalty units that can be imposed, if successfully prosecuted)
- using provisions in the *Protection of the Environment Operations Act 1997* to regulate as noted in s. 2.8.6 of these guidelines
- disconnecting the discharge from the sewerage system.

2.8.2 Failure to comply with an approval

Failing to comply with an approval is an offence under s. 627 of the Local Government Act. Depending on the severity of the situation, council may consider:

- issuing a PIN as outlined in Schedule 12 of the Local Government (General) Regulation
- issuing orders under s. 124 of the Act requiring compliance with approval
- prosecution under the Act (s. 627 specifies the maximum penalty units that can be imposed, if successfully prosecuted)
- using provisions in the *Protection of the Environment Operations Act 1997* to regulate as noted in s. 2.8.6 of these guidelines
- disconnecting the discharge from the sewerage system.

2.8.3 Giving orders

Where a discharger fails to comply with a liquid trade waste approval, or the discharge has adverse impacts on the sewerage system, and the discharger will not cooperate in remedying the situation, council may issue an order requiring the discharger to comply with the conditions of approval. Failure to comply with an order is an offence under s. 628 (3) of the Local Government Act.

Chapter 7, Part 2, Division 1 of the Act describes a process of giving orders and procedures that must be followed when issuing the order. However, under s. 129 (2) of the Act, council does not have to follow notification procedures in regard to Orders 15, 22 or an order given in an emergency.

Orders that may be relevant to the management of liquid waste discharged to council's sewerage systems (s. 124 of the Act) include:

- requiring or prohibiting the doing of things to or on a premises (No. 11)
- requiring not to be conducted or to cease conducting, if such an activity constitutes a life-threatening hazard or a threat to public health and safety (No. 15)
- requiring the preservation of healthy conditions (Nos. 21, 22 & 24)
- requiring the protection or repair of public places (No. 28)
- requiring compliance with an approval (No. 30).

Matters necessary or convenient for the operation of the Act in relation to the giving of orders are prescribed in Part 3 and Schedule 2 of the Local Government (General) Regulation 2005.

S. 678 of the Act contains provisions relating to the action council can take if a discharger fails to comply with an order, including provisions for council to take actions to give effect to the order. Failure to comply with an order may provide grounds for council to enter premises and do what is necessary to complete the work specified in the order, including disconnection of liquid trade waste discharge from the sewerage system. Council may also enforce a charge to recover its costs against the person responsible or the owner of the land.

2.8.4 Revoking an approval

Under s. 108 of the Local Government Act, council may revoke an approval. Council must have good grounds for doing so and must give an advanced notice (s. 110 of the Act) to the discharger of its intention to revoke the approval. The approval can be revoked in the circumstances set out in s. 109 of the Act, including failure to comply with a:

- requirement made by or under the Act relating to the approval
- condition of the approval.

If any discharger consistently fails to comply with the conditions of approval, council must revoke its approval and require the discharger to cease discharging liquid trade waste to the sewerage system. If the discharger takes appropriate remedial measures and council is satisfied with such measures, council may consider permitting the discharger to recommence the discharge on the condition that the discharger executes an appropriate liquid trade waste services agreement. Such an agreement will provide council with better control of potentially non-compliant discharges.

Council may also revoke an approval in other circumstances, which may give rise to an obligation to pay compensation to the affected person (s. 112 of the Act). Accordingly, each approval granted by council should be subject to careful assessment and include appropriate conditions.

2.8.5 Powers to disconnect a liquid trade waste service

As indicated in the above sections (2.8.1 to 2.8.4), various powers are available to council for regulating liquid trade waste discharges into its sewerage system.

Council may undertake work specified in its order (refer to s. 2.8.3 of these guidelines), including disconnecting a liquid trade waste service if the discharger fails to comply with the requirements within the specified timeframe. In addition, s. 59A (2) of the Local Government Act enables councils to disconnect the discharge from its works to ensure that council's sewerage system is used appropriately. S. 191 (1) of the Act provides councils with the power to enter premises to disconnect a liquid trade waste service at the point where the private sewer connects with council's sewer main.

Council must give the owner, or the occupier of the premises written notice of its intention to enter the premises (s. 193 (1) of the Act). However, in the case of an emergency or a risk or likelihood of a serious risk to health and safety, an authorised person may enter the premises without notice (ss. 193 (3) (b) and (c) of the Act).

It is important that councils only use the above powers where there is proper cause and sufficient evidence to identify the correct premises prior to taking action. It is also recommended that councils seek legal advice to ensure that they are using these powers in a lawful manner for their specific circumstances.

2.8.6 Provisions under the *Protection of the Environment Operations Act 1997*

Councils may also invoke the provisions of the *Protection of the Environment Operations Act 1997* where a discharger fails to obtain an approval to discharge or fails to comply with the conditions of approval.

Under s. 120 (1) of the Act, a person who pollutes any waters, including council's sewerage system, is guilty of an offence.

Under cl. 56 of the Protection of the Environment Operations (General) Regulations 2009, s. 120 does not apply to pollutants discharged into the sewerage system where the discharge complies with the conditions of approval. However, a discharger who does not have council's approval to discharge or who fails to comply with the conditions of approval may be prosecuted under this section.

In addition, under s. 222 of the Act, council may issue a penalty infringement notice (i.e. an on-the-spot fine) to such a discharger.

Furthermore, council may issue a clean-up notice (s. 91), prevention notice (s. 101) and noise control notice (s. 264) under the Act.

2.8.7 Prevention of waste and misuse of water

Water is a valuable resource. It must be used efficiently and must be recycled where practicable. Misuse of water is an offence under s. 637 of the Local Government Act. Also, under clauses 159 and 160 of the Local Government (General) Regulation, the misuse or waste of water must be prevented.

Accordingly, dilution of liquid trade waste with water from any non-process source, including council's water supply, bore water, groundwater and/or rainwater, as a means of reducing pollutant concentration is strictly prohibited.

3 Liquid trade waste regulation policy

3 Liquid trade waste regulation policy

This chapter describes the policy of regulating discharges of liquid trade waste to council's sewerage systems in regional NSW. It includes the recommended acceptance limits for various substances that may be present in liquid trade waste discharges, and information on substances and types of waste prohibited from discharge to the sewerage system.

The procedures for obtaining exceptions from installation of appropriate pre-treatment equipment are also included in this chapter.

This chapter also provides information on developing and adopting an appropriate liquid trade waste regulation policy and obtaining the department's endorsement for the policy.

3.1 Objectives of a liquid trade waste policy

Key objectives of the regulation of liquid trade waste discharges to the sewerage system are to:

- protect public and workers health and safety and the environment
- protect council's assets from damage
- minimise adverse impacts on the sewage treatment processes
- protect the environment from the discharge of waste that may have a detrimental effect
- assist in meeting regulatory and licence compliance
- promote water conservation, effluent recycling and biosolids reuse
- promote waste minimization.

The above objectives are consistent with objectives set out in the *Australian Sewage Quality Management Guidelines*, June 2012, WSAA.

3.2 Criteria considered in determining acceptance of liquid trade waste discharges

3.2.1 Recommended acceptance limits for liquid waste into the sewerage system

Discharge of liquid trade wastes has the potential to adversely impact on the sewerage system (including infrastructure, sewage treatment processes and effluent and biosolids quality), the environment, and public and worker health and safety if adequate controls are not put in place.

Placing limits on the quality of the liquid trade waste and levying appropriate fees and charges are effective controls for minimising the potential for negative impacts.

Table 6 sets out acceptance limits for a range of contaminants that may present in liquid trade wastes.

Council needs to contact the department in regard to acceptance limits for substances not listed in Table 6. Acceptance requirements for such substances will be determined on a case-by-case basis.

The analytical testing methods for the parameters listed in the tables need to be in accordance with the *Australian Sewage Quality Management Guidelines*, June 2012, WSAA and are available on the department's password protected website.

The acceptance limits in Table 6 are consistent with the recommended non-domestic wastewater acceptance criteria of the above national guidelines.

Table 6. Acceptance limits for liquid trade waste into the sewerage system

Table 6a. General limits

Parameter[4]	Limits
Flow rate	The maximum daily and instantaneous rate of discharge (kL/h or L/s) is determined based on the available capacity of the sewer. Large dischargers are required to provide a balancing tank to even out the load on the sewage treatment works.
BOD_5	Normally approved at 300 mg/L. Concentrations up to 600 mg/L may be accepted.
Suspended solids	Normally approved at 300 mg/L. Concentrations up to 600 mg/L may be accepted.
COD	Normally, not to exceed BOD_5 by more than three times. This ratio is given as a guide only to prevent the discharge of non-biodegradable waste.
Total dissolved solids	Up to 4000 mg/L may be accepted. The acceptance limit may be reduced depending on available effluent disposal options and may be subject to a mass load limit.
Temperature	Less than 38°C.
pH	Within the range 7.0 to 9.0.
Oil and grease	100 mg/L if the volume of the discharge does not exceed 10% of the design capacity of the treatment works and 50 mg/L if the volume is greater than 10%.
Detergents	All detergents are to be biodegradable. A limit on the concentration of 50 mg/L (as MBAS) may be imposed on large liquid trade wastes discharges.
Colour	Colour must be biodegradable. No visible colour when diluted to the equivalent dilution afforded by domestic sewage flow. Specific limits may be imposed on industrial discharges where colour has a potential to interfere with sewage treatment processes and the effluent management.
Radioactive substances	If expected to be present (e.g. Iodine 131 from ablation), acceptance requirements will be set on a case-by-case assessment.

4 See Glossary for explanation of terms

Table 6b. Limits for inorganic compounds

Parameter	Maximum concentration (mg/L)
Ammonia (as N)	50
Boron	5
Bromine	5
Chlorine	10
Cyanide	1
Fluoride	30
Nitrogen (total Kjeldahl)	100
Phosphorus (total)	20
Sulphate (as SO_4)	500
Sulphide (as S)	1

Table 6c. Limits for organic compounds

Parameter	Maximum concentration (mg/L)
Benzene	< 0.001
Toluene	0.5
Ethylbenzene	1
Xylene	1
Formaldehyde	30
Phenolic compounds non-halogenated	1
Petroleum Hydrocarbons[5] C_6-C_9 (flammable) Total Recoverable Hydrocarbons (TRH)	 5 30
Pesticides general (except organochlorine and organophosphorus)	0.1
Polynuclear Aromatic Hydrocarbons (PAH)	5

5 Always ask a laboratory to carry out a silica gel clean up, if other than petroleum products are expected to be present in a liquid trade waste sample, e.g. animal fats, plant oil, soil, etc.

Table 6d. Limits for metals

Parameter	Maximum concentration (mg/L)	Allowed daily mass limit (g/d)
Aluminium	100	–
Arsenic	0.5	2
Cadmium	1	5
Chromium[6]	3	10
Cobalt	5	15
Copper	5	15
Iron	100	–
Lead	1	5
Manganese	10	30
Mercury	0.01	0.05
Molybdenum	5	15
Nickel	1	5
Selenium	1	5
Silver	2	5
Tin	5	15
Zinc	1	5
Total heavy metals excluding aluminium, iron and manganese	**Less than 30 mg/L and subject to total mass loading requirements**	**–**

Council may choose to impose more stringent requirements than those specified in the above tables to suit their local circumstances. Where council adopts less stringent limits, it needs to provide the justification for doing so when seeking consent to its draft liquid trade waste policy. Any changes need to be justified and should not have the potential to result in unacceptable impacts.

6 Where hexavalent chromium (Cr^{6+}) is present in the process water, pre-treatment will be required to reduce it to the trivalent state (Cr^{3+}) prior to discharge into the sewer.

3.2.2 Prohibited or restricted substances and waste

3.2.2.1 Substances and waste prohibited from discharge to the sewerage system

Substances prohibited from being discharged into the sewerage system unless they are specifically approved under s. 68 of the Local Government Act are listed in Table 7.

Table 7. Waste prohibited from discharge to the sewerage system

Prohibited waste
• Organochlorine weedicides, fungicides, pesticides, herbicides and substances of a similar nature and/or wastes arising from the preparation of these substances
• Organophosphorus pesticides and/or waste arising from the preparation of these substances
• Per- and poly-fluoroalkyl substances (PFAS)
• Any substances liable to produce noxious or poisonous vapours in the sewerage system
• Organic solvents and mineral oil[7]
• Any flammable or explosive substance[7]
• Discharges from chemicals and/or oil storage areas and 'Bulk Fuel Depots'
• Natural or synthetic resins, plastic monomers, synthetic adhesives, rubber and plastic emulsions
• Roof, rain, surface, seepage or ground water, unless specifically permitted (clause 137A of the Local Government (General) Regulation 2005)
• Solid matter[7]
• Disposable products including wet wipes, cleaning wipes, colostomy bags, cat litter and other products marketed as flushable
• Any substance assessed as not suitable to be discharged into the sewerage system
• Liquid waste that contains pollutants at concentrations which inhibit the sewage treatment process—refer to the *Australian Sewage Quality Management Guidelines*, June 2012, WSAA
• Any other substances listed in a relevant regulation

3.2.2.2 Discharge of contaminated stormwater from open areas

The ingress of stormwater into the sewerage system can cause operational problems and result in sewer overflows as the sewerage system does not have the capacity for such flows. Under clause 137A of the Local Government (General) Regulation, the discharge of roof, rain, surface, seepage or groundwater to a sewerage system is prohibited unless specifically approved.

However, at some premises, it may not be feasible to totally prevent stormwater contamination and ingress into a sewerage system.

The discharge of limited quantities of stormwater (generally first 10 mm of rain) from sealed areas can be considered when roofing cannot be provided due to safety or other important considerations. In such instances, the applicant needs to take measures to minimise both the contamination of stormwater and the volume of stormwater entering the sewerage system (for example first-flush systems, flow separation, on-site detention, etc.). The discharge from unsealed areas is not permitted.

Further guidance on the management and assessment of stormwater discharges to the sewerage system as part of a liquid trade waste application are provided in s. F10 in Appendix F. Liquid trade waste charges may be applicable for the acceptance of stormwater to the sewerage system from large open areas (refer to s. 8.3.8.3 of these guidelines).

7 In excess of the approved limit (refer to Table 6).

The applicant must provide the following information:

- reasons why the area cannot be fully or partially roofed and bunded to exclude stormwater
- the dimensions and a plan of the open area proposed to be connected to the sewerage system
- whether the open area is sealed
- the estimated volume of the stormwater discharge
- information on rain gauging
- where a first-flush system is proposed, details on excess stormwater diversion arrangements (the first flush to be limited to first 10 mm of storm run-off)
- measures proposed for segregation of stormwater from liquid trade waste generating areas
- a report on other stormwater management options considered and why they are not feasible.

3.2.2.3 Discharge of contaminated groundwater

Similar to stormwater, discharge of groundwater or seepage water to a sewerage system is prohibited under clause 137A of the Local Government (General) Regulation. Accordingly, groundwater extracted during construction activities (for example from building/road construction, vacuum excavation, mining/exploration works, etc.) is not permitted to discharge into council's sewerage system directly or indirectly.

However, groundwater previously contaminated by human activities (such as service station remediation sites) may be considered for discharge to the sewerage system. Limited quantities of groundwater from remediation projects may be accepted under controlled conditions after appropriate pre-treatment, for a limited period.

3.2.2.4 Discharge of landfill leachate

The discharge of leachate from municipal waste landfills to the sewerage system may be considered under controlled conditions, if there is no other viable option of managing this waste and the proposed discharge is within the council's acceptance limits.

The proponent when seeking approval to discharge leachate to a sewerage system needs to demonstrate that a sound stormwater management plan has been developed and implemented.

The plan needs to address:

- segregation of potentially contaminated areas from uncontaminated areas
- prevention of surface run-off entering into leachate collection ponds/dams and to council's sewerage system.

Only the excess leachate after on-site management within the premises will be considered for discharging to the sewerage system, if the discharge meets council's acceptance criteria. On-site pre-treatment to reduce ammonia levels and other substances (such as PFAS) may also be required prior to discharge.

3.2.2.5 Discharge from float tanks

The discharge of float tank water into a council's sewerage system is not permitted.

Float tanks, often referred to as floatation pods, iso-pods (isolation tank), sensory deprivation systems, or REST tanks (restricted environmental stimulation therapy tanks) are typically small, enclosed pods containing about 1,000 litres of water. Float tanks are generally used in some health retreats and fitness centres. This water usually contains large quantities of Epsom salts (300–700 kg of magnesium sulphate), resulting in total dissolved solids concentration up to 700,000 mg/L. It is normally heated to around 35°C.

Discharge of such water to sewer is not permitted due to potential adverse impacts associated with the high salt content on the sewer infrastructure and treatment processes. It is also not appropriate to dispose of such waste to septic tanks or on-site soak wells.

If wastewater is proposed to be transported away for off-site management, council must request the operator of such facilities to provide the details of liquid waste transporters (refer to s. 7.6 of these guidelines) and written verification from the receival facilities acknowledging and agreeing to receive such wastewater.

3.2.2.6 Discharge from service station forecourts and other refuelling points

3.2.2.6.1 New premises

The discharge of wastewater including run-off from service station forecourts and other refuelling points (such as at bus depots, etc.) is not permitted. Refer to NSW EPA Practice Note, titled *Managing Run-off from Service Station Forecourts*, June 2019, for information on managing such wastewater.

3.2.2.6.2 Existing premises

The discharge of wastewater from existing service stations and other refuelling areas may be permitted, provided appropriate pre-treatment is provided and the requirements are adhered to (such as having a manual activated pump, an inspection aperture, etc.). Further information is provided in s. 5.3.11 and s. F6.5 of Appendix F.

If a refuelling area is refurbished, then the discharge from this area must be disconnected from the sewerage system.

3.2.2.7 Discharge from liquefaction and/or pulverisation of solid waste by physical or chemical processes

The wastewater arising from liquefaction or pulverisation of solid waste by physical means, such as pulping or macerating, or by chemical means, such as dissolving solid waste in highly acidic or alkaline solutions, is not permitted to be discharged to the sewerage system.

Examples of such processes are described in the following sections.

3.2.2.7.1 Macerators

Macerators and any similar devices used for pulverising of solid waste are not permitted to be connected to council's sewerage system. Solid waste includes, but is not limited to, sanitary napkins, placenta, surgical waste, disposable nappies, mache bedpan/urine containers, food waste, disposable products and animal waste (dog/cat faeces, cat litter).

3.2.2.7.2 Food waste disposal units

Discharge of waste from food waste disposal units (also known as in-sink food waste disposers or garbage grinders) in non-residential premises is not permitted, unless permitted by council under special circumstances. Discharge from existing installations in hospitals and nursing homes may be permitted provided that wastewater is discharged through an adequately sized grease arrestor. If the hospital or nursing home's kitchen is refurbished, the food waste disposal unit must be removed.

For existing premises, a food waste disposal charge needs to be levied based on the number of beds in the hospital or nursing home (refer to s. 8.3.8). Recommended charges are listed in a schedule of liquid trade waste fees and charges on the department's password protected website.

3.2.2.7.3 Alkaline hydrolysis waste

This is a process where human or animal tissue is broken down using alkaline solutions at elevated temperatures and pH. The process may be used in animal care facilities, veterinary premises, animal research laboratories, funeral parlours, etc. The generated wastewater is of a high strength and may result in high loadings on the sewerage system. Accordingly, the wastewater generated by this process is not allowed to be discharged to the sewerage system.

Council needs to ensure that, if the process is used by the above premises, the waste is removed from the premises and not discharged to the sewerage system directly or indirectly.

3.2.2.8 Discharge of disposable waste products including those marked as flushable

Any disposable solid products including those marketed as 'flushable' (such as wet wipes, cleaning wipes, colostomy bags, cat litter, etc.) are not permitted to flush down the sewerage system. Contrary to manufacturers' claims, flushable wet wipes do not breakdown in the sewerage system in a similar way to a toilet paper and may cause blockages within the discharge premises or in the council's sewerage system, causing raw sewage overflow to the environment.

Councils need to take appropriate measures to protect their sewerage assets by educating their customers (both residential and non-residential) on safe disposal methods of products not suitable to be discharged to the sewerage system.

3.2.2.9 Use of additives in pre-treatment systems

The use of bacterial, enzyme and/or odour-controlling agents in pre-treatment equipment (such as in grease arrestors) is prohibited unless specifically approved by council with the department's concurrence.

Even if a product is approved by another water authority, use of such a product is not permitted in regional NSW without prior concurrence.

3.2.2.10 Discharge from solid food waste processing units (digesters/composters, etc.)

There is a range of solid waste processing equipment (such as composters/digesters, etc.) on the market that use different treatment technologies to reduce the volume of waste. These techniques may include thermal treatment, aerobic digestion, etc.

Discharge from a solid food waste processing unit (digesters/composters, etc) to a council's sewerage system is a Concurrence Classification C discharge, hence councils need to obtain concurrence to its approval from the department for individual applications.

Assumed concurrence is not available for applications in Classifications A or B if wastewater from solid waste processing equipment is proposed to be discharged to the sewerage system.

The quality of wastewater from this equipment depends on the type of solid waste feed into it and the effectiveness of the on-site pre-treatment, hence frequent sampling will be required for monitoring and charging purposes. Sampling needs to be undertaken by either a council officer or an independent party acceptable to council.

Appropriate on-site pre-treatment needs to be provided prior to combining with any other liquid waste stream that discharges to the council's sewerage system.

Councils need to consider impacts on the sewerage system, including downstream pre-treatment equipment, additional treatment cost and impact on solid waste management strategy, during the assessment of applications for discharge of wastewater from such equipment to the sewerage system.

Each concurrence request will be assessed on a case-by-case basis.

3.3 Exceptions

This section describes situations where some existing commercial liquid trade waste dischargers may apply to council seeking permission not to install prescribed pre-treatment equipment.

Table 8 in chapter 4, lists prescribed pre-treatment equipment for discharges from commercial food preparation activities and automotive activities. However, some existing dischargers who do not have prescribed pre-treatment equipment may apply to council for an exception from the requirement to install such equipment.

The following existing dischargers may be eligible to seek an exception:

- dischargers generating oily/greasy waste from commercial food preparation activities
  - that do not have a grease arrestor or
  - have an undersized grease arrestor
- small dischargers in the automotive industry with double or triple interceptor pits or a general-purpose pit instead of a prescribed mineral oil separator.

Exceptions are generally not applicable for new premises or where the existing premises are refurbished.

3.3.1 Exceptions from installing an appropriately sized grease arrestor for existing premises

The procedure described below is only applicable to existing premises that cannot install an appropriately sized grease arrestor.

The applicant needs to provide:

- a completed liquid trade waste application form
- a drainage diagram
- a letter requesting exception and outlining:
  - reasons (e.g. site restrictions)
  - current housekeeping practices
- a letter from a hydraulic consultant, plumber or the company that provides the pre-treatment equipment outlining the reason/s why the installation of the appropriate pre-treatment equipment is not feasible
- for an undersized grease arrestor, its estimated capacity, the current frequency of pump-outs and the pump-out contractor details.

While assessing the application, council needs to consider, whether:

- the receiving sewerage system has the capacity to accept this waste without incurring excessive maintenance cost
- any adverse impact on the sewerage system including on the treatment processes or byproducts management
- the site precludes the installation or maintenance of the appropriate pre-treatment equipment.

The application together with above information must be forwarded to the department seeking concurrence to council's approval unless council has been granted assumed concurrence for liquid trade waste discharges with an undersized grease arrestor and the requirements indicated in s. 5.1.3 of these guidelines are satisfied.

3.3.1.1 Conditions of approval

The conditions of approval for an exception are that:

- the exception is only applicable to the existing approval holder and is not transferable
- if the type or scale of the activity changes, the exception will lapse, and council will review the pre-treatment requirements
- the existing premises undergoing major refurbishment/renovation need to ensure that the appropriate pre-treatment equipment is installed. If a new or refurbished premises cannot accommodate the prescribed pre-treatment equipment, then such premises is not suitable for carrying out the proposed activity.

Refer to Appendix E, conditions 79 to 82.

For premises with **no grease arrestor**, exception will only be considered to continue where:

- there is no evidence of detrimental impact on the downstream sewerage system caused by the existing discharge
- the site precludes the installation or maintenance of an appropriately sized grease arrestor.

Note:
While the existing premises may be granted an exception to operate without a grease arrestor, council should discourage any new businesses that generate oily/greasy waste moving into it in the future, as such premises is not suitable to conduct such activity.

3.2.1.2 Effluent improvement measures

If exception is granted, the discharger may be required to improve the waste quality by:

- employing better housekeeping practices
- undertaking more frequent pump-outs
- installing other equipment to improve the waste quality (e.g. an in-sink dry basket arrestor).

3.3.2 Exceptions for existing oily waste pits (small commercial discharges in automotive industry)

The prescribed pre-treatment equipment for discharges from commercial automotive activities as listed in Table 8 in chapter 4 includes a coalescing plate interceptor, vertical gravity separator or hydrocyclone separation system.

Some existing premises may have double or triple interceptor pits as pre-treatment equipment. Discharges from such premises may be able to meet the acceptance limits consistently if good housekeeping practices are employed and the pits are well maintained.

This exception is only applicable to existing small commercial dischargers with double or triple interceptor pits. New dischargers are not eligible for exceptions.

The applicant needs to supply:

- a completed liquid trade waste application form
- a drainage diagram
- a letter requesting exception and outlining:
  - reasons (for example, site restrictions)
  - current housekeeping practices
- records to demonstrate regular maintenance of the existing pits and proper disposal of waste (such as receipts/dockets, pump-out contractor information)
- at least three samples taken on three different occasions (while discharging) and tested for oil and grease, suspended solids and total recoverable hydrocarbons. The exception will be considered if test results indicate that the following pollutants do not exceed the levels listed below:
  - total oil and grease 100 mg/L
  - suspended solids 300 mg/L
  - total recoverable hydrocarbons 30 mg/L.

3.3.2.1 Council's approval

Council must request the department's concurrence to its approval for these applications. The information indicated in the preceding section must be forwarded to the department.

Approval for such applications will include the following conditions:

- the discharge quality to comply consistently with the acceptance limits as indicated above
- if the waste quality fails to meet the acceptance limits specified in the approval, then the discharger will be required to upgrade the pre-treatment equipment to the appropriately sized prescribed equipment
- a sampling schedule (parameters and frequency of testing)
- record keeping (including regular maintenance, appropriate waste disposal etc.).

Refer to Appendix E, conditions 83 to 84.

3.3.3 Discharges deemed to be approved

Council may declare some liquid trade waste discharges as 'deemed to be approved' and list them under Part 1, Exemptions of its Trade Waste Policy (refer to s. 3.4.2 of these guidelines). A list of recommended discharges is provided in Appendix D along with the minimum pre-treatment requirement.

These discharges are considered to have minimal impact on the sewerage system. Council may elect to include some or all of those discharges in the above list in its policy as 'deemed to be approved'. If the discharge is deemed to be approved by council, then there is no requirement for the business to seek approval to discharge liquid waste to the sewerage system.

The list of 'deemed to be approved' discharges may be amended by the department from time to time (either by including new discharges or removing existing discharges) based on new information. Councils must not include additional discharges as 'deemed to be approved' other than those listed in Appendix D without the consent of the department.

3.4 Developing and adopting of a liquid trade waste regulation policy

It is important for each council to implement a liquid trade waste regulation policy that outlines its requirements for accepting liquid trade waste into its sewerage system.

Implementing an appropriate liquid trade waste regulation policy endorsed by the department is:

- a requirement under the NSW Best Practice Management Framework
- an essential requirement for a council to obtain assumed concurrence for Classifications B and S.

3.4.1 Objectives of the policy

The objectives of council's policy should be consistent with those set out in the *Australian Sewage Quality Management Guidelines*, June 2012, WSAA, as indicated in s. 3.1 of these guidelines.

In addition to these key objectives, the policy should ensure that:

- council provides an environmentally responsible liquid trade waste management service to the non-residential sector
- commercial provision of services and full cost recovery through appropriate sewerage and liquid trade waste fees and charges is achieved
- maintenance cost of council's infrastructure is not significantly increased.

The policy should provide existing and new dischargers with information in regard to:

- council's process for determining liquid trade waste applications
- the discharges deemed to be approved (refer to s. 3.3.3 of these guidelines)
- the information to be provided with an application
- acceptance limits for substances that can be discharged to the sewerage system
- substances and waste not permitted to be discharged to the sewerage system
- matters to be considered by council in assessing the application
- non-residential sewerage charges and liquid trade waste fees and charges
- avenues for review and appeal of council decisions.

3.4.2 Adoption of the policy

The requirements for the preparation, consultation, adoption and amendment of a local approvals policy are set out in Chapter 7, Part 3 of the Local Government Act. Council's procedures regarding adoption of a local approvals policy for liquid trade waste regulation must comply with the provisions in the Act (ss. 158 to 167).

Under s. 158 of the Act, the local approval policy must consist of three parts:

- **Part 1**—the circumstances in which a person is exempt from the necessity to obtain an approval to discharge liquid trade waste to the sewerage system
- **Part 2**—the criteria that must be taken into consideration in determining whether to approve or refuse a liquid trade waste application
- **Part 3**—other matters relating to liquid trade waste approvals.

To assist councils in developing an appropriate local approvals policy for liquid trade waste, the department has developed a Model Policy for Discharge of Liquid Trade Waste to the Sewerage System. The Model Policy is available on the department's password protected website.

Prior to adopting a local approvals policy for the regulation of liquid trade waste, council needs to undertake the following steps:

1. Develop a draft local approvals policy.
2. If the draft policy differs from the Model Policy, submit the draft policy to the department for comments. Amend the draft policy to address any department's comments, give public notice and exhibit the policy for not less than 28 days.
3. After addressing any issues raised in public submissions, the amended policy is to be provided to the department for endorsement, together with a copy of the proposed liquid trade waste fees and charges.
4. Finalise, adopt and implement the policy in accordance with the department's endorsement. Advise the department the dates when the policy is adopted and implemented by council.

3.5 Sewerage and liquid trade waste fees and charges

Councils provide sewerage and liquid trade waste services on a commercial basis, with full cost recovery through sewerage and liquid trade waste fees and charges.

Appropriate pricing is fundamental to effective management of water supply and sewerage businesses. Therefore, each council should set best-practice tariffs for water supply, sewerage and liquid trade waste. Each council needs to implement best-practice pricing for non-residential sewerage and liquid trade waste to ensure that liquid trade waste dischargers bear a fair share of the cost of providing sewerage services and to facilitate appropriate recycling, pre-treatment, waste minimisation and water conservation.

Council's proposed fees and charges are advertised annually for public comment in its draft management plan.

A detailed description of the above charges and the methodology of calculating fees and charges for various liquid trade waste dischargers are provided in chapter 8.

3.5.1 Responsibility for payment of fees and charges

Property (land) owners are responsible for the payment of fees and charges for water supply, sewerage and liquid trade waste services provided by council. This includes property owners of marinas, caravan parks, etc.

Where another party (lessee) leases premises, any reimbursement of the lessor (property owner) for such fees and charges is a matter for the lessor and the lessee.

In relation to tankered human waste, waste transporters who collect the waste and discharge the waste at the sewage treatment works are responsible for the payment. A waste transporter who tankers liquid trade waste to the treatment works may pay only the liquid trade waste fees and charges as non-residential sewerage fees are not applicable.

Note:
A liquid trade waste discharger (except for tankered waste) pays both the non-residential sewerage charges and liquid trade waste fees and charges.

4 Concurrence Classification A—automatic assumed concurrence

4 Concurrence Classification A—automatic assumed concurrence

This chapter describes the assessment and approval process for liquid trade waste discharges in Concurrence Classification A, and the procedures involved in processing such applications. It also indicates which applications cannot be processed as automatic assumed concurrence (refer to Figure 5). Information on minimum pre-treatment requirements and recommended conditions of approval for each discharge in this classification is also included.

4.1 What is Concurrence Classification A?

Concurrence **Classification A** comprises **low risk** liquid trade waste discharge as defined in s. 1.9.1 of these guidelines.

Each council can automatically assume concurrence for all Classification A discharges, meaning that it does not need to forward individual liquid trade waste applications to the department for concurrence, if it complies with requirements indicated in this chapter (refer also to s. 1.9.1 and Appendix A).

Only up to four Concurrence Classification A liquid trade waste discharges from a premises have automatic assumed concurrence. If there are more than four, such applications are treated as Concurrence Classification B. This requirement does not include discharges shown on a 'deemed to be approved' list (refer to Table D1 in Appendix D).

The basic philosophy on Classification A liquid waste discharges is that they are acceptable provided that the discharger:

- installs the prescribed pre-treatment equipment (refer to Table 8)
- properly operates and maintains the pre-treatment equipment
- adheres to approval conditions relating to liquid trade waste discharged into the sewerage system (refer to Table 9 and Table 11).

Automatic assumed concurrence is not available for approving applications where an applicant proposes:

- an alternative type of pre-treatment to those listed in this chapter
- nil pre-treatment where pre-treatment is required under these guidelines
- pre-treatment equipment that is undersized
- to discharge waste from a grease arrestor with an individual capacity > 5000 L
- to discharge stormwater from an open or partially roofed area
- to discharge the waste from a solid food waste processing unit (such as digester/composter) directly to the sewerage system or via a pre-treatment equipment (Concurrence Classification C—refer to s. 3.2.2.10).

All such applications must be referred to the department for concurrence. Refer to Figure 5 to determine whether council needs department's concurrence to its approval.

For the purpose of these guidelines, the activities that generate Concurrence Classification A discharges have been divided into two broad groups:

- discharges from commercial retail food preparation activities/processes (refer to Table 9)—discharges up to 16 kL/d from premises that prepare or serve food directly to the public. The requirements relating to these discharges are set out in s. 4.3. This group is further divided into two sub-groups:
  - activities that generate nil or minimal greasy/oily type wastes as defined in these guidelines (refer to s. 4.3.2).
  - activities that generate greasy/oily type wastes (refer to s. 4.3.3).
- discharges from other commercial activities/processes (refer to Table 10)—discharges not exceeding 5 kL/d from premises that conduct businesses or provide services directly to the public. The requirements relating to these discharges are set out in s. 4.4.

Note:
If discharge from any activity listed in the above tables is combined with discharge from any activity listed in Concurrence Classification B, C or S, assumed concurrence is not available for such discharge.

4.1.1 Pre-treatment equipment

Table 8. Types of prescribed standard, non-complex pre-treatment equipment[8]

No.	Prescribed pre-treatment equipment
1	Passive grease arrestor[9]
2	Dry basket arrestor
3	Screens
4	Mineral oil separators (coalescing plate interceptor, vertical gravity separator or hydrocyclone separation system)
5	Cooling pit
6	Balancing, dilution, neutralising pit/tank
7	General-purpose pit
8	Solids settlement pit/silt arrestor
9	Lint screen (maximum 2 mm aperture size)
10	Plaster arrestor
11	Fat/oil interceptor[10]

8 The quality of liquid waste from some low risk commercial activities in Classification A may exceed guideline limits in Table 6. As a higher level of pre-treatment is not cost-effective, such waste is considered acceptable if the discharger installs and properly operates and maintains the required pre-treatment equipment.

9 Minimum capacity is 1000 L, maximum capacity of an individual grease arrestor is 5000 L (refer to Appendix F, s. F5.2).

10 To be installed **upstream of a grease arrestor ONLY** and not permitted to be used as a stand-alone device.

4.1.2 General installation requirements for liquid waste pre-treatment equipment

The pre-treatment equipment must be installed in compliance with the relevant Regulations, the *Work Health and Safety Act 2011*, Plumbing Code of Australia, Australian Standard 3500, council's requirements and manufacturer's instructions. The pipes and connecting fittings must also comply with relevant codes and standards. The plumbing and drainage work must be carried out by a licenced plumber.

4.1.3 Installation requirements for a grease arrestor

In addition to requirements in s. 4.1.2, a grease arrestor installed above ground must be protected from the exposure to direct sunlight, even if a manufacturer claims that material can withstand the exposure. Exposure to direct sunlight results in high temperature within the arrestor and may interfere with the grease separation process.

4.1.4 Electrical equipment used in treating liquid trade waste

All electrical work must be carried out by a licenced electrician.

Flammable Class 3 liquids (see Australian Dangerous Goods Code), such as petrol, kerosene or other solvents, are potentially dangerous in the workplace. These substances are prohibited from discharge to a sewerage system. However, there is the potential for them to be present near liquid trade waste treatment facilities (such as in a mineral oil separator).

Where a process has flammable liquids present, electrical equipment must have the correct electrical rating for a particular installation and must be installed in accordance with the manufacturer's instructions.

4.1.5 Backflow prevention

Public water supply must be protected from direct or indirect connection with a potentially polluted water source. The cross-connection control is achieved by installing an appropriate backflow prevention device. Backflow prevention requirements are set out in AS/NZS 3500 Part 1: Water Services, Appendix F Types of Backflow Protection.

4.1.6 Stormwater

An area where liquid trade waste activities are carried out must be roofed to prevent the contamination of stormwater and the potential ingress of stormwater to the sewerage system. If some activities are carried out in an open area, ingress of stormwater into the sewerage system must be prevented.

Areas where stormwater is likely to become contaminated must be bunded and roofed over, unless approved otherwise. Where it is not feasible to fully roof an area, measures need to be taken to minimise the volume of rainwater entering the sewerage system, such as by bunding, providing a first-flush system etc.

Where roofing is not provided over such an area, the application for the discharge of liquid waste to the sewerage system must be referred to the department seeking concurrence to council's approval. For more details on open areas and stormwater segregation, refer to s. F10 in Appendix F.

4.1.7 Chemicals Storage

All chemicals must be stored in an area sufficient to contain the total volume of stored liquid in order to prevent spillage entering the sewerage or the stormwater system. This can be achieved by using cabinets with secondary containment and/or placing chemical storage containers in a bunded, impervious area.

Bulk liquids and dedicated chemical storage areas must not be connected to the sewerage system.

4.1.8 Multi-activity premises

Waste streams generated by different activities should not be combined prior to pre-treatment. For example, wastewater from a laundry, hairdresser or a mechanical workshop must not be discharged into a grease arrestor due to interference with pre-treatment. Similarly, a cooling pit (for a laundry) or a mineral oil interceptor (for automotive industry) must not receive any incompatible waste streams that interfere with the pre-treatment performance. For example, if a dog wash facility is located at a car wash facility, animal wash water must bypass the mineral oil interceptor.

4.1.9 Mobile business activities

A liquid trade waste approval for a mobile activity is generally issued to the base premises where the business is registered. Liquid waste generated by such activity may needs to be pre-treated, prior to discharge. Generally, the appropriate pre-treatment needs to be provided at the mobile unit or at the base premises, where appropriate. Refer to relevant activity for further details.

4.2 The approval process for Concurrence Classification A

4.2.1 Information the applicant needs to supply

As indicated in s. 2.1, a person who wishes to discharge liquid waste to the sewerage system must seek the approval of council to do so. This includes submitting a liquid trade waste application to council (refer to s. 2.4). If council has incorporated 'deemed to be approved' discharges (refer to Appendix D) in its liquid trade waste policy, such dischargers do not need to lodge a liquid trade waste application.

Council must ensure that an applicant is aware of what information needs to be provided with the application (refer to s. 2.4.1 and Table 1). Sample application forms are included in Appendix C. Councils may use these forms, adapting them to suit their administrative procedures, if needed.

Form C1 sets out the minimum information requirements that need to be provided by an applicant.

Forms C2 to C5 set out supplementary information to be provided by certain dischargers:

- **Form C2**—for commercial retail food businesses
- **Form C3**—for mechanical repair workshops or other services related to motorised equipment (such as car detailer, mechanical repairs, vehicle wash)
- **Form C4**—for laboratories
- **Form C5**—for animal wash facilities.

Council needs to check whether the applicant has provided all information (refer to Table 1 in chapter 2) and filled all relevant sections of the application form. It also needs to check that the application is signed by the owner or a person who has the consent of the owner of the premises.

4.2.2 Assessing and approving an application

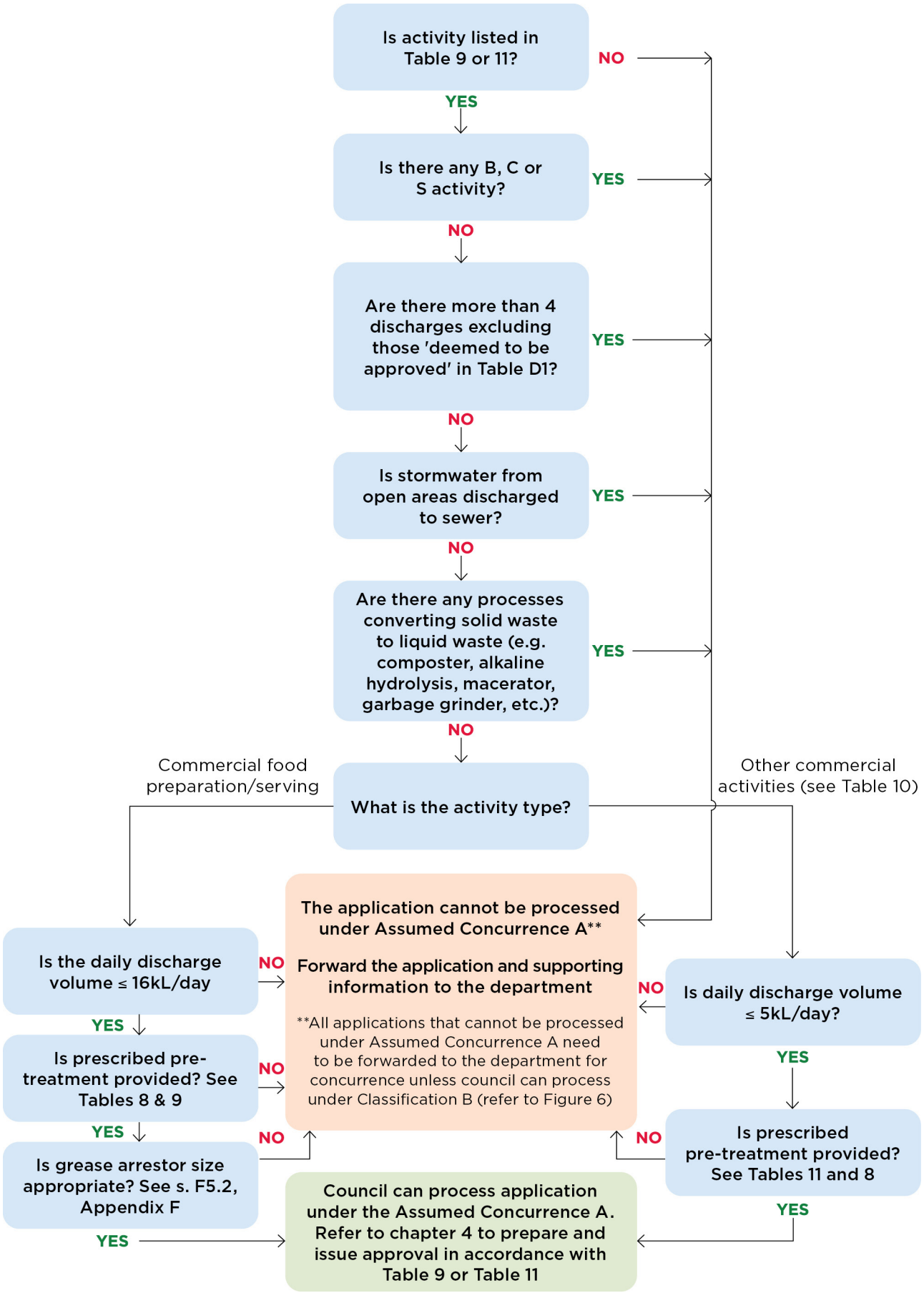
There are several factors for council to consider as part of the assessment process. A critical factor is whether appropriate pre-treatment equipment will be provided. Refer to Table 9 and Table 11, and ss. 4.3 and 4.4 for pre-treatment requirements and other important considerations.

Figure 5 shows procedures involved in determining whether department's concurrence to council's approval for an individual application is required.

If council decides to approve the application, it needs to prepare the approval with all relevant conditions. Approval conditions for various discharges are set out in Appendix E.

Note:
Not all the conditions listed in Appendix E are applicable to every discharge. Table 9 and Table 11 indicate conditions applicable to each discharge, and those must be included in the approval. Council may elect to add further conditions, but the additional conditions must not conflict with any of the conditions nominated against each activity in Table 9 and Table 11.

Figure 5. Procedure for approval of Classification A applications



4.3 Discharges from retail food preparation

Table 9. Retail food preparation activities that generate Concurrence Classification A discharge

Activity generating liquid waste	Pre-treatment type (see Table 8)	Conditions (see Appendix E)	Section of guidelines
Bakery (retail)—only bread baked on-site	2, 3	1–14	4.3.1, 4.3.2
Bakery (retail)—pies, sausage rolls, quiches, cakes, pastries with creams or custards	1, 2, 3	1–18	4.3.1, 4.3.3
Boarding house/bed and breakfast/hostel kitchen—up to 10 persons	2, 3	1–14	4.3.1, 4.3.2
Boarding house/bed and breakfast/hostel kitchen—exceeding 10 persons	1, 2, 3	1–18	4.3.1, 4.3.3
Butcher	1, 2, 3[11]	1–18	4.3.1, 4.3.3
Café/coffee shop/bistro—no hot food	2, 3	1–14	4.3.1, 4.3.2
Café/coffee shop/bistro—with hot food	1, 2, 3	1–18	4.3.1, 4.3.3
Canteen/cafeteria—no hot food	2, 3	1–14	4.3.1, 4.3.2
Canteen/cafeteria—with hot food	1, 2, 3	1–18	4.3.1, 4.3.3
Chicken/poultry shop—retail barbeque/ charcoal chicken (barbeque not connected to sewer)	1, 2, 3	1–19a	4.3.1, 4.3.3
Chicken/poultry shop—retail roast chicken with oven connected to sewer	1, 2, 3	1–19b	4.3.1, 4.3.3
Chicken/poultry shop—fresh chicken only for retail with cutting and preparation of meat on-site	1, 2, 3	1–18	4.3.1, 4.3.3
Club—no hot food	2, 3	1–14	4.3.1, 4.3.2
Club—with hot food	1, 2, 3	1–18	4.3.1, 4.3.3
Commercial kitchen/caterer	1, 2, 3	1–18	4.3.1, 4.3.3
Community hall/civic centre—minimal hot food	2, 3	1–14	4.3.1, 4.3.2
Community hall/civic centre—with hot food	1, 2, 3	1–18	4.3.1, 4.3.3
Day care centre—no or minimal hot food	2, 3	1–14	4.3.1, 4.3.2
Day care centre—with hot food	1, 2, 3	1–18	4.3.1, 4.3.3
Delicatessen—no or minimal hot food	2, 3	1–14	4.3.1, 4.3.2
Delicatessen—with hot food	1, 2, 3	1–18	4.3.1, 4.3.3

11 All drainage from sinks and floors in food preparation and handling areas to pass through dry basket arrestors.

Activity generating liquid waste	Pre-treatment type (see Table 8)	Conditions (see Appendix E)	Section of guidelines
Fast Food outlets—Burger King, KFC, McDonalds, Hungry Jacks, etc.	1, 2, 3	1–18	4.3.1, 4.3.3
Fast Food outlets with oven connected to sewer (for example, Red Rooster)	1, 2, 3, 11	1–19b	4.3.1, 4.3.3
Fish shop—fresh fish for retail, no hot food	2, 3[12]	1–12, 14	4.3.1, 4.3.2
Fish shop—with hot food	1, 2, 3[12]	1–18	4.3.1, 4.3.3
Fruit and vegetable shop	2, 3	1–12, 14	4.3.1, 4.3.2
Fruit and vegetable shop—loading dock	2, 3	1–12, 14, 53	4.3.1, 4.3.2
Function centre with hot food prepared and/or served on-site	1, 2, 3	1–18	4.3.1, 4.3.3
Hotel—no hot food	2, 3	1–14	4.3.1, 4.3.2
Hotel—with hot food	1, 2, 3	1–18	4.3.1, 4.3.3
Ice-cream parlour—imported and take away only	2, 3	1–14	4.3.1, 4.3.2
Ice-cream parlour—made and/or served on-site	1, 2, 3	1–18	4.3.1, 4.3.3
Juice bar—no hot food	2, 3	1–14	4.3.1, 4.3.2
Mixed business—minimal hot food	2, 3	1–14	4.3.1, 4.3.2
Mixed business—with hot food	1, 2, 3	1–18	4.3.1, 4.3.3
Mobile food van—no hot food	3	1–5, 7–11, 13	4.3.1, 4.3.2
Mobile food van—with hot food	1[13], 3	1–5, 7–11, 13, 15–18	4.3.1, 4.3.3
Motel—no or minimal hot food	2, 3	1–14	4.3.1, 4.3.2
Motel—with hot food	1, 2, 3	1–18	4.3.1, 4.3.3
Nightclub—no hot food	2, 3	1–14	4.3.1, 4.3.2
Nightclub—with hot food	1, 2, 3	1–18	4.3.1, 4.3.3
Nursing home kitchen	1, 2, 3	1–18	4.3.1, 4.3.3
Nut shop	2, 3	1–12, 14	4.3.1, 4.3.2
Patisserie	1, 2, 3	1–18	4.3.1, 4.3.3
Pie shop—imported and re-heated only	2, 3	1–14	4.3.1, 4.3.2
Pie shop—cooked on-site	1, 2, 3	1–18	4.3.1, 4.3.3

12 All drainage from sink to pass through In-sink dry basket arrestor or a scale arrestor.

13 Provided at the base location, if appropriate, or available on-site (eg. Showground).

Activity generating liquid waste	Pre-treatment type (see Table 8)	Conditions (see Appendix E)	Section of guidelines
Pizza—pizzeria	1, 2, 3	1–18	4.3.1, 4.3.3
Pizza—imported ingredients only, limited washing on-site (e.g. utensils only)	2, 3	1–14	4.3.1, 4.3.2
Restaurant	1, 2, 3	1–18	4.3.1, 4.3.3
Sandwich shop/salad bar/snack bar—no hot food	2, 3	1–14	4.3.1, 4.3.2
Sandwich shop/salad bar/snack bar—with hot food	1, 2, 3	1–18	4.3.1, 4.3.3
School—canteen with minimal cooking	2, 3	1–14	4.3.1, 4.3.2
School—canteen with hot food cooking	1, 2, 3	1–18	4.3.1, 4.3.3
School—home science with cooking	1 (Note 2), 2, 3	1–14	4.3.1, 4.3.3
Supermarket—butcher/delicatessen/seafood/bakery	1, 2, 3	1–18	4.3.1, 4.3.3
Supermarket —retail roast chicken (oven connected to sewer)	1, 2, 3, 11	1–19b	4.3.1, 4.3.3
Takeaway food outlet—no hot food cooked on-site	2, 3	1–14	4.3.1, 4.3.2
Takeaway food outlet—with hot food	1, 2, 3	1–18	4.3.1, 4.3.3

Note 1:
Grease arrestors, where required, are to be sized in accordance with s. F5.2 of Appendix F, and as indicated in s. 4.3.3.

Note 2:
The wastewater must be discharged through a grease arrestor, only if practical and it is already available for other activities, for example a canteen.

As noted in s. 4.1, discharges from commercial retail food preparation activities have been subdivided into two groups:

- activities that generate no or minimal greasy/oily types of waste
- activities that do generate greasy/oily types of waste (referred as ‘hot food’ in Table 9).

What is hot food?

For the purpose of these guidelines, ‘hot food’ means that greasy/oily wastes are generated as a result of preparing and/or serving food on the premises. This excludes hot food (as of high temperature) that does not generate greasy waste, such as toasted sandwiches. Similarly, premises that import food like pies, sausage rolls, pastry products, etc. and heat and serve imported food for take-away consumption do not fall into this definition.

What is minimal hot food?

'Minimal hot food' preparation, referred to in Table 9, applies to premises preparing limited hot food. Examples include:

- small motels with no dining room and serving breakfast only
- school canteens with limited hot food
- community halls having occasional functions with no or limited hot food cooked on-site.

Grease arrestors may not be required for such premises, but it needs to be ensured there is no future expansion of the activity. Local knowledge of the type and scale of activities is important when making a decision on whether a grease arrestor is required.

When approving the discharge of waste from the premises without a grease arrestor, the discharger needs to be advised that, if the type or scale of the activity is changed, council will review its determination in regard to a grease arrestor. For new developments, provisions need to be made for the installation of a grease arrestor, if required.

4.3.1 General requirements

4.3.1.1 Pre-treatment requirements

- Screens must be provided in all sinks in food preparation areas. While an in-sink dry basket arrestor is the preferred device, it is recognised that some businesses may experience problems with the installation of these screens. In such situations, sink strainers must be used and an in-sink dry basket arrestor needs to be considered where a cost-effective device is available. Council needs to make sure during its regular inspections that sink strainers are in place. If strainers are not in use, council should require that an in sink dry basket arrestor be provided.
- Dry basket arrestor must be installed on any floor waste outlet located in the food preparation and handling area and/or sinks (where applicable). The arrestor needs to be maintained regularly to ensure the unit is operating properly.
- Further pre-treatment will be required for premises generating greasy/oily wastewater (refer to s. 4.3.3).

4.3.1.2 Other issues

4.3.1.2.1 Prohibited or restricted liquid waste/processes

Liquid waste from the following equipment/processes are either prohibited or restricted (refer to ss. 3.2.2.7 to 3.2.2.10 for further details):

- macerators
- food waste disposal units (known as garbage grinders/in-sink food waste disposers)
- solid food waste processing equipment (digesters/composters etc.)
- use of additives in pre-treatment system.

4.3.1.2.2 Housekeeping practices

- Floors are to be dry swept before washing, if any floor waste outlet is located in food preparation and handling areas.
- Utensils, plates, bowls, etc. need to be scraped to the waste bin before washing up in order to minimise the amount of waste discharged to the sewerage system.

4.3.1.2.3 Garbage bin cleaning and/or garbage compactor areas

The areas must be roofed and bunded to prevent the ingress of stormwater to the sewerage system. If a grease arrestor is available at the premises, the liquid waste from the garbage bin cleaning and compactor areas need to pass through the grease arrestor, if practical. A dry basket arrestor is to be fitted to all floor waste outlets that drain to the sewerage system.

4.3.2 No greasy/oily wastes generated

There are a number of activities that fall within the group 'commercial retail food preparation activities—no greasy/oily wastes generated'. These activities either do not generate greasy/oily wastes through on-site cooking and serving of food, or minimal hot food is prepared.

Some businesses may serve greasy food, but not generate greasy wastewater. For example, some sushi bars do not cook ingredients on-site and therefore do not generate greasy waste. In such situations, an assessment needs to be made in regard to generation of greasy wastewater considering the type of food, food preparation processes and the kitchen equipment.

A grease arrestor is not required for discharge of non-greasy/oily wastewater.

4.3.2.1 Written declaration

A written declaration may be sought as part of the application indicating that there will be minimal or no on-site cooking, preparation or serving of food that generates a greasy/oily residue. The declaration should also include a statement that council will be notified if this situation changes or if the business is sold or placed under a new management.

4.3.3 Greasy/oily wastes generated

'Greasy/oily' types of wastes can be generated by either:

- cooking food on-site, with the cooking process generating a greasy or oily residue
- handling/preparing food on-site, with the preparation process resulting in greasy/oily waste residuals on utensils and equipment
- washing up dishes, cutlery, crockery, utensils.

Activities that fall within the group 'commercial retail food preparation activities—greasy/oily wastes generated' are listed in Table 9.

Note:
With a properly operated and maintained grease arrestor, restaurants and takeaway food businesses may still generate liquid waste of high strength.

4.3.3.1 Pre-treatment requirements

The following is required in addition to pre-treatment described in s. 4.3.1:

- a passive grease arrestor
- a fat/oil interceptor (also known as an active arrestor) for steam ovens cooking poultry or pork and directly connected to sewer (upstream of a grease arrestor ONLY) unless an inbuilt fat and oil interceptor acceptable to council and the department is available.

4.3.3.1.1 Grease arrestor

A grease arrestor needs to be installed for all food preparation and/or food serving premises where greasy/oily wastes are generated.

4.3.3.1.2 Sizing of a grease arrestor

Refer to s. F5.2 in Appendix F for sizing of a grease arrestor.

The **minimum capacity** of a grease arrestor is 1,000 L. Some discharges require a larger grease arrestor, for example:

- fast food outlets such as McDonalds, Red Rooster, KFC, etc. require a grease arrestor with a minimum capacity of 1,500 L
- premises with wet wok burners will require a grease arrestor with a minimum capacity of 1,500 L. A wet wok burner will generate high volumes of wastewater with high temperature. These dischargers need to be encouraged to replace the wet wok burner with a dry process as such practice will result in significant water savings and subsequently in lower water, sewerage and liquid trade waste charges. A wet wok burner must not be permitted in new premises
- barbequing processes (poultry or pork) in a steam oven or gas vat that directly connects to the sewerage system requires a grease arrestor with a minimum capacity of 1,500 L.

The maximum capacity of an individual grease arrestor permitted is 5,000 L. If a larger capacity is required, multiple grease arrestors may be required (refer to Appendix F).

4.3.3.1.3 Maintenance of a grease arrestor

Grease arrestors must be regularly maintained. Initially, the pump-out frequency should be set at 13 weeks. The initial pump-out frequency is used as an interim guide when commencing the discharge. However, regular inspections may allow to determine the frequency of pump-outs. Records of pump-outs must be kept for on-site inspection. For further information on grease arrestors, including installation requirements and maintenance, refer to ss. F5.4 to F5.7 of Appendix F.

4.3.3.2 Other issues

4.3.3.2.1 Management of used oil and fat

Oils and fats collected (used/unwanted) must not be disposed of into the sewerage systems and must be removed from the premises by an authorised oil and fat recycler.

4.3.3.2.2 Barbequing processes

The fat and oil from the barbequing processes and any waste oil must be collected for off-site management and must not be discharged into the grease arrestor. Only wash water arising from the cleaning of cooking equipment can be discharged to the sewerage system via the grease arrestor. Fat and oil can be collected by placing a container underneath the cooking equipment.

4.3.3.2.3 Fat/oil interceptor (known as an active arrestor)

Businesses with poultry or pork barbequing in a steam oven or gas vat directly connected to the sewerage system are required to install a fat/oil interceptor upstream of the grease arrestor, unless an inbuilt fat/oil interceptor acceptable to council and the department is available.

The collected oil must be emptied daily (or as necessary) into a container for removal by an authorised oil recycler.

4.3.3.2.4 Dishwashers and glass washers

Commercial dishwashers and glass washers may generate wastewater of high temperature and with a high concentration of detergents. Such wastes may interfere with the fat and oil separation process in a grease arrestor.

Accordingly, in any new premises, wastewater from commercial glass washers should not be discharged through a grease arrestor. Council needs to discuss this requirement during the DA approval stage.

Also, premises with long operating hours (including those with continuously running dishwashers) would require the grease arrestor to be designed to reduce effluent temperature consistently staying on or below 38°C.

4.3.3.2.5 Potato peeling appliances

Where possible, liquid trade waste from potato peeling appliances should not go through the grease arrestor in order to prevent fermentation processes occurring in the arrestor. Dry basket arrestors are to be installed for floor waste outlets in the food preparation area. The arrestor needs to be regularly maintained.

4.3.3.2.6 Cleaner sink

The sink, if provided, shall be connected to the grease arrestor.

Note:
In instances where council considers that a discharge from a new activity listed in Table 9 does not warrant installation of a grease arrestor, such approvals will require the department's concurrence. Council needs to forward such applications, with supporting information to the department.

Photo of a bakery

4.4 Discharges from other activities

Table 10. Discharges from other activities

Activity	Section applicable
Animal wash activities	4.4.1
Boiler blowdown/condensing boiler	4.4.2
Cooling towers	4.4.3
Craft activities	4.4.4
Dental surgery/dental technician/dental specialist	4.4.5
Dry-cleaning	4.4.6
Florist	4.4.7
Funeral parlour/morgue	4.4.8
Hairdressing, beauticians and tanning booths	4.4.9
Jewellery shop	4.4.10
Laboratory	4.4.11
Laundry/laundromat	4.4.12
Mechanical workshops/lawnmower repairs	4.4.13
Medical centre/doctor's surgery/physiotherapy (plaster of paris casts, laboratory)	4.4.14
Mobile cleaning units	4.4.15
Nursing homes	4.4.16
Optical service and glass cutting/grinding activities	4.4.17
Pet shop (retail)	4.4.18
Photographic (non-digital)	4.4.19
Plants (retail)	4.4.20
School	4.4.21
Stone working	4.4.22
Surfboard manufacturing (wet process only)	4.4.23
Swimming pool/spa/hydrotherapy	4.4.24
Vehicle washing/detailing—commercial and small non-commercial	4.4.25
Veterinary surgery	4.4.26

Activities listed in Table 10 are further described in the following sections, including pre-treatment requirements and any other relevant issues. Table 11 lists pre-treatment requirements and recommended conditions for each discharge.

Note:
Schedule 2 of the Local Government (General) Regulation 2005 includes standards for some of the premises listed in Table 10. The requirements included in Table 11 are in addition to those listed in the Regulation.

Table 11. Other activities that generate Classification A discharges

Activity generating liquid waste	Pre-treatment type (refer to Table 8)	Conditions (see Appendix E)	Section of guidelines
Animal wash—dog pounds/boarding kennels/stables/racecourses/mobile animal wash	2, 3, 8[a, b, h] Note 2	1–12, 30, 35[i], 45[h], 51–53	4.4.1
Animal wash—mobile	3, Note 2	1–5, 30, 51	4.4.1
Boiler blowdown/condensing boiler	5[c], neutraliser[g]	1–10, 46, 50, 53, 54	4.4.2
Cooling tower—flow rate < 500 L/hr	Nil	1–9, 50, 53	4.4.3
Crafts (including hobby clubs)—ceramic, pottery, jewellery, gemstones etc. —General	n/a	1–9, 12	n/a
—Flows ≤ 200 L/d	Nil	40	4.4.4
—Flows 201–1000 L/d	10	10, 29[r], 40, 53, 55	4.4.4
—Flows 1001–5000 L/d	7	10, 40, 44, 53, 55	4.4.4
Dental surgery—Plaster casts made on-site	AT, 10	1–10, 29–31	4.4.5
Dental surgery—Dental technician	10	1–10, 29, 30	4.4.5
Dental clinic—mobile, no amalgam waste	Nil	1–5, 7–9, 30	4.4.5
Dental clinic—mobile, with amalgam waste	AT	1–5, 7–10, 30, 31	4.4.5
Dry-cleaning—Separator water	Note 1	1–10, 22, 48, 49	4.4.6
Dry-cleaning—Boiler blowdown	Refer to Boiler blowdown in this table	Refer to Boiler blowdown in this table	4.4.2
Florist	2, 3	1–12, 53	4.4.7
Florist—mobile	Nil	1, 2, 5, 7–9	4.4.7
Funeral parlour/Morgue—Autopsy table	2, 3[f]	1–11, 30, 32–34, 35[i]	4.4.8
Hairdressing/Beautician/Tanning booth —General	n/a	1–9	4.4.9
—Hair dressing	2[j], 3[k], Note 2	10, 11[j, k], 12	4.4.9
—Beautician/Tanning booth	Nil		4.4.9
Jewellery shop—Miniplater, ultrasonic washing	Nil	1–9	4.4.10
Jewellery shop—Precious stone cutting	10	1–10, 29, 55	4.4.10

Activity generating liquid waste	Pre-treatment type (refer to Table 8)	Conditions (see Appendix E)	Section of guidelines
Laboratory—pathology/analytical	6, Note 3	1–10, 22, 36, 37, 41–43	4.4.11
Laundry or laundromat—coin operated (for dry-cleaning section see previous entry in this table)[m]	5[c], 9[l]	1–10, 21, 46–48, 53	4.4.12
Mechanical workshop/ lawnmower repairs	2, 4[d]	1–12, 20–25, 53, 55–56, 59[e]	4.4.13
Mechanical workshop—mobile	3	1–5, 7–9, 23–25, 27	4.4.13
Medical centre/doctor's surgery/ physiotherapy—Plaster of Paris casts	10	1–10, 29, 30	4.4.14
Medical centre—Laboratory	Refer to Laboratory in this table	Refer to Laboratory in this table	4.4.11
Mobile cleaning—Carpet cleaning, blind cleaning	3	1–5, 7–9, 53	4.4.15
Mobile cleaning—Garbage bin washing	2, 3	1–5, 7–9, 53	4.4.15
Nursing home			
—General	n/a	1–11, 30, 36–37, 52, 53	4.4.16
—Boiler blowdown	Refer to Boiler blowdown in this table	Refer to Boiler blowdown in this table	4.4.2
—Cooling tower	Refer to Cooling Tower in this table	Refer to Cooling Tower in this table	4.4.3
—Laundry	Refer to Laundry in this table	Refer to Laundry in this table	4.4.12
—Hairdressing	Refer to Hairdressing in this table	Refer to Hairdressing in this table	4.4.9
—Other activities (if applicable)	Refer to relevant activity in this table	Refer to relevant activity in this table	
Optical service and glass cutting/ grinding activities	7 or 8, Note 4	1–10, 45, 55	4.4.17
Pet shop (retail)	2, 3	1–12, 30, 51–53	4.4.18
Photographic (non-digital)—Tray work/manual development	Nil	1–9, 38[o] or 39[p]	4.4.19
Plants (retail)—no open space or nursery	2, 3	1–11, 53	4.4.20

Activity generating liquid waste	Pre-treatment type (refer to Table 8)	Conditions (see Appendix E)	Section of guidelines
School			
—General	n/a		4.4.21
—Crafts	Refer to Crafts in this table	Refer to Crafts in this table	4.4.4
—Cooling towers	Refer to Cooling Tower in this table	Refer to Cooling Tower in this table	4.4.3
—Photographic	6[n] or 7[n]	1–9	4.4.21
—Science laboratory	6, Note 3	1–10, 41–43	4.4.21
Stone working	8[b]	1–10, 12, 45, 53, 55	4.4.22
Surfboard manufacturing (wet process only)	3, 8[b]	1–12, 22, 26, 45, 53, 55	4.4.23
Swimming pool/spa/hydrotherapy unit ≤ 55,000 L capacity	Nil	1–9, 76–78	4.4.24
Swimming pool/spa/hydrotherapy unit > 55,000 L capacity	6	1–10, 75–78	4.4.24
Vehicle washing/detailing			
—General	n/a	1–12	4.4.25
—Hand/wand-type/drive-through car wash/car underbody/ engine degrease	2, 4[d]	20–24, 53, 55, 56, 59[e]	4.4.25
—Car detailing	2, 4[d], 8[h]	20–25, 45[h], 53, 55, 56, 59[e]	4.4.25
—Car detailing-mobile	Nil	1–5, 7–9, 23–25[i]	4.4.25
—Bus depot (no dump point or refuelling area connected to the sewer)	2, 4[d]	20–24, 53–56, 59[e]	4.4.25
—External truck wash	2, 4[d], 7[h]	20–24, 44[h], 53–56, 59[e]	4.4.25
—Small non-commercial	3, 8	22–24, 45, 53	4.4.25
Veterinary surgery	2, 3	1–12, 22, 30, 35[i], 45[h], 51–53	4.4.26

Notes for Table 11

a Only if animals furl in a sandpit

b Minimum capacity of one hour detention

c Sized to reduce wastewater temperature to ≤38°C

d Sized according to the influent flow rate

e In regard to total recoverable hydrocarbons only, conditions 59(m) and 59(n)

f At drainage outlet

g For condensing boiler

h Where necessary

i If applicable

j For floor waste outlets

k Hair traps

l Washing machine internal screens are acceptable

m For premises with dry-cleaning

n Where available

o If silver-bearing waste is treated on-site

p If silver-bearing waste is not treated on-site

r For pottery

AT Amalgam trap. Amalgam wastes are to be collected by a licenced contractor

Note 1:
Separator water must be treated on-site by an appropriate treatment unit (refer to s. 4.4.6) or removed from the premises by a licensed contractor.

Note 2:
The waste from wash basins must pass through a hair trap.

Note 3:
A balancing pit is only required if a general-purpose pit is not installed for other waste streams. If a general-purpose pit is installed, the laboratory waste can go through this pit.

Note 4:
A baffled settlement pit with minimum two hours detention time. Minimum capacity is 500 L.

4.4.1 Animal wash activities

Animal wash facilities include pounds, boarding kennels, dog grooming services, dog washing facilities at a carwash, racecourses and stables (not associated with domestic households) where animals are washed.

It does not include animal wash facilities in a zoo or an animal hospital.

4.4.1.1 Pre-treatment requirements

The following pre-treatment is required for animal wash and/or kept areas where the wastewater is discharged to the sewerage system:

- screens/hair traps—in all sinks in animal wash areas and all floor drains where animals are kept/washed (or in a centralised point) prior to discharge to the sewerage system
- dry basket arrestor—to all floor waste outlets in the animal wash area(s), and where the animals are kept, if connected to sewer
- settling pit (if animals furl in a sand pit, such as horses in stables and at racecourses). The pit needs to have a minimum capacity of one-hour detention time.
- mobile units, eg. mobile pet grooming vans—screens at the wash basin outlet.

The pre-treatment equipment including screens must be cleaned on a regular basis.

If an animal wash facility is located at a carwash facility, wastewater from the animal wash facility must bypass the pre-treatment equipment for the car wash facility.

4.4.1.2 Use of disinfectants for sanitation purposes and pesticides for flea control

Safety data sheets for disinfectants and pesticides proposed to be used at the premises must be forwarded to council along with the liquid trade waste application form.

4.4.1.3 Prohibited substances/equipment/processes

- Organochlorine and organophosphate pesticides (refer to s. 3.2.2.1)—wash water containing such substances must not be discharged to the sewerage system. If such products are used, the applicant needs to provide a management plan outlining storage arrangement and measures taken to prevent spills, leaks and wastes arising from the use of such products entering the council's sewer.
- Solid waste—animal droppings, cat litter, etc.
- Disposable waste products—disposable bags, wet wipes, etc., even if a manufacturer claims that their product is biodegradable and/or flushable
- Animal waste disposal units or grinders
- Alkaline hydrolysis process—this is a process where an animal body is broken down by an alkaline solution at elevated temperatures and pH. The generated wastewater is of a high strength and may exhibit high loadings on the sewerage system. The wastewater generated by this process is not allowed to be discharged to the sewerage system. Council needs to verify that, if the process is used, the waste is removed from the premises and not discharged to the sewerage system.

4.4.1.4 Housekeeping practices

Areas where animals are kept must be dry swept before hosing down the floors.

4.4.2 Boiler blowdown/condensing boiler

Boiler blowdown, or bleed-off, is the water discharged from a boiler, during the boiler blowdown process. Water is discharged from the boiler to avoid the negative impacts of dissolved solids (impurities) on boiler efficiency and maintenance.

Typical blowdown volume ranges from 3% to 15% of a boiler's steam-generating capacity. The boiler blowdown water is often very hot and can cause damage to sewerage infrastructure.

4.4.2.1 Condensing Boiler

High-efficiency condensing boilers are now available in the market. They achieve higher efficiency than conventional boilers by extracting more energy from exhaust gases and using this energy to heat the water in the boiler. The process involves condensing water vapours in the exhaust gas.

The produced condensate is acidic with the pH between 2.0 to 4.0 and needs to be treated prior to discharge to sewer in order to avoid damage to drainage pipes and sewerage infrastructure. Condensing boilers may produce up to 3.5 L of condensate per hour for every 30 kW of input.

4.4.2.2 Pre-treatment requirements

4.4.2.2.1 Cooling pit/tank

Cooling pit/tank must be sized to reduce the wastewater temperature to less than 38°C (refer to s. F7 in Appendix F).

4.4.2.2.2 Neutraliser

Condensate produced by a condensing boiler needs to be treated by passing it through a condensate neutraliser. The neutraliser consists of a plastic container or a tank containing marbles, limestone aggregates or chips. Over time the media will dissolve and needs to be replaced. Most manufacturers recommend replacing media at least annually.

4.4.2.3 Chemical additives

Chemicals may be added to the boiler water to inhibit corrosion or reduce scale build-up. In the past, corrosion and scale inhibitors contained chromium. Such products are no longer used. However, council officers need to check the safety data sheets of products used in order to verify they are chromium free. There are some treatment systems that do not rely on chemicals. Liquid trade waste dischargers need to be encouraged to consider such chemical-free water treatment systems where suitable.

4.4.2.4 Prohibited substances

Discharge of chromium-bearing liquid waste to the sewerage system is prohibited.

4.4.3 Cooling towers

Air-conditioning cooling towers are defined as cooling towers dedicated exclusively to (and are an integral part of) heating, ventilation, air-conditioning or refrigeration systems associated with commercial living space air-conditioning, or commercial process airconditioning such as computer rooms. This classification includes cooling towers with a discharge rate not exceeding 500 L/h.

Note:
Industrial cooling towers that facilitate cooling and heat exchange in some manufacturing processes are classified as Concurrence Classification C and concurrence to council's approval is required for individual applications.

4.4.3.1 Other issues

Wastewater generated by commercial cooling towers may contain various pollutants, depending on the type of treatment process used.

Some treatment systems do not rely upon chemicals. Where appropriate, these chemical-free treatment systems should be encouraged.

4.4.3.2 Prohibited substances

Discharge of chromium-bearing liquid waste to the sewerage system is prohibited.

4.4.4 Craft activities

Discharges from craft activities include those undertaken at clubs, cottage industries, schools, TAFE colleges, etc. that provide facilities for clay pottery, ceramics, cutting and polishing of gem stones and/or the making of jewellery.

4.4.4.1 Pre-treatment requirements

Pre-treatment requirements are dependent on the discharge volume:

- daily discharge volume does not exceed 200 L/d—no pre-treatment
- daily discharge volumes from 201 to 1,000 L/d—a plaster arrestor
- daily discharge volume exceeding 1,000 L/d—a 1,000 L general-purpose pit.

4.4.4.2 Prohibited substances

Pared glue mix and unused glue emulsions should be disposed to garbage bins and not to the sewerage system.

4.4.5 Dental surgery/dental technician/dental specialist

Activities include:

- dental surgery including plaster moulds
- mobile dental clinics
- dental technician
- dental specialist (e.g. orthodontics).

Discharges from the activities listed under this classification do not include dentists in dental hospitals and dental facilities attached to teaching institutions, as other liquid waste-generating processes are typically associated with these premises, which are Concurrence Classification B discharges.

Activities carried out by dentists and dental technicians that may produce liquid waste include making of fillings and teeth moulds. The wastes generated by these processes must be treated before being discharged to the sewerage system.

No pre-treatment is required for mobile dental clinics if no amalgam filling or teeth moulding work is carried out, otherwise pre-treatment requirements are as indicated above.

4.4.5.1 Pre-treatment requirements

Pre-treatment requirements are dependent on the process undertaken:

- amalgam trap—either built into the cuspidor or separately provided. Amalgam waste must be collected by a licenced contractor
- plaster arrestor—if teeth moulds are prepared, the waste must pass through a plaster arrestor before discharge to the sewerage system
- for mobile dental clinic that carry out tooth filling work—amalgam trap built into the cuspidor. No pre-treatment is required, if tooth filling works are not carried out.

4.4.5.2 Prohibited substances

Solid wastes such as hypodermic needles, syringes, instruments, utensils, swabs, dressings, bandages, paper and plastic items of a disposable nature, or human tissues must not be discharged to the sewerage system. Such wastes are to be disposed of in accordance with the NSW Health policy directive of 2017 ‘Clinical and Related Waste Management for Health Services’, which advises on the safe handling, storage and disposal of clinical, cytotoxic, pharmaceutical and chemical wastes.

4.4.6 Dry-cleaning

A dry-cleaning process uses chemical solvents to clean garments. Various chemicals are used in the process:

- Perchloroethylene, (tetrachloroethylene), commonly called Perc
- N-propyl bromide
- other hydrocarbon solvents
- Solvon K4 (formaldehyde dibutyl acetel known as dibutoxymethane)
- GreenEarth (siloxane).

The most commonly used solvent in dry-cleaning is a chlorinated hydrocarbon solvent called Perc. It is known for its superior cleaning qualities. Prec is a chemical regulated by NSW EPA due to its high risk to human health and environment. It may also inhibit sewage treatment processes.

Waste streams expected from a dry-cleaning process may include:

- used solvents. Dry-cleaning process usually includes a solvent recovery unit
- separator water contaminated with the solvent. If Perc is used, its concentration can be up to 150 mg/L in the separator water
- boiler blowdown (refer to s. 4.4.2).

The dry-cleaning process area must be separated from areas where laundry activities are carried out, if laundry facilities are available.

4.4.6.1 Pre-treatment requirements

Used dry-cleaning solvents are prohibited to be discharged to the sewerage system.

Separator water contaminated with Perc or other solvents needs to be either treated on-site prior to discharge to council's sewerage system or removed from the premises with other chemicals for off-site management.

On-site pre-treatment of separator water may include a filter (such as an activated carbon filter) which is capable of removing dry-cleaning solvent from the wastewater. The residual volume of decontaminated water is relatively small and can be accepted to the sewerage system subject to approval conditions.

4.4.6.2 Prohibited substances/processes

- Perc and any other dry-cleaning solvents
- Wastewater contaminated with solvents, (e.g. separator water), if on-site pre-treatment is not provided.

The prohibited wastes listed above are to be collected by a licensed waste transporter for disposal at an appropriate licensed facility. Council needs to be advised in regard to the proposed management of this waste. The discharger needs to keep receipts of waste collection and disposal.

4.4.6.3 Chemicals and other solutions handling

The area where Perc and/or other solvents are used or stored must not have floor drains connected to the sewerage system. Any leaks and spills must be contained and removed for off-site management.

Photo of a florist

4.4.7 Florist

Florist activities are limited to retail shops that sell flowers and floral arrangements including mobile florists. They do not include retail or wholesale plant/flower nurseries.

No liquid trade waste approval is required for a mobile florist, if there is no discharge to the sewerage system.

4.4.7.1 Pre-treatment requirements

- Strainer screens in sink/s
- Dry basket arrestor for all floor waste outlets connected to the sewerage system.

4.4.7.2 Prohibited substances

Herbicides/pesticides must not be discharged to the sewerage system.

4.4.8 Funeral parlour/morgue

This activity includes a funeral parlour or morgue in stand-alone premises. It does not include a morgue located within a hospital or medical training/teaching facilities.

Processes associated with a funeral parlour or morgue that generate liquid waste discharges include cadaver preparation and the dissection of human bodies.

4.4.8.1 Pre-treatment requirements

In areas where cadaver preparation or dissection is carried out, floor drains must be fitted with removable screens in order to prevent the discharge of any solid material, such as tissues and hair to the sewerage system.

Morgue and autopsy tables must have an approved backflow prevention device between the water supply and all on-site equipment, appliances and fittings.

4.4.8.2 Prohibited substances/processes

4.4.8.2.1 Alkaline hydrolysis process

As indicated in s. 3.2.2.7.3, this is a process where a human or animal tissue are broken down using alkaline solution at elevated temperatures and pH. The wastewater generated by this process is not allowed to be discharged to the sewerage system due to its high strength.

4.4.8.2.2 Formaldehyde

Where a funeral parlour prepares cadavers, there is a potential threat of formaldehyde discharge to the sewerage system. Formaldehyde can impact on the sewerage system and therefore must not be discharged to the system. Council should require the applicant to submit a due diligence program within three months of commencement of the discharge outlining the measures to be taken to prevent the discharge of formaldehyde. Large volumes of formaldehyde need to be neutralised in accordance with the safety data sheet prior to discharge to council's sewerage system.

4.4.9 Hairdressing, beauticians and tanning booths

These activities include hairdressers, barber shops, beauticians, nail salons and tanning booths.

Beauticians and nail salons may have sterilisation equipment (mostly UV sterilisers).

Tanning booths may use chemicals for artificial tanning.

This activity does not include beauty and health fitness centres with float tanks.

4.4.9.1 Pre-treatment requirements

- Screens/hair traps—a hair trap for hairdresser/barber shops can be installed at a centralised point, where practical
- Dry basket arrestors—for any floor waste outlets connected to the sewerage system
- No pre-treatment is required for beautician and tanning booths.

4.4.9.2 Other issues

If located in a shopping complex, discharge through the grease arrestor must be avoided, as the wastewater from the above activities may have a detrimental impact on the grease and oil separation process due to chemicals and hydraulic load.

4.4.9.3 Prohibited wastes and substances

- Solvents (for example nail polish remover) must not be discharged to the sewerage system.
- Discharge of waste from float tanks is not permitted.

4.4.10 Jewellery shop

Liquid waste may be generated by precious metal plating (miniplater), ultrasonic washing and precious stone cutting.

4.4.10.1 Pre-treatment requirements

- A plaster arrestor is required for discharge from precious stone cutting activities
- No pre-treatment is required for the wastewater generated from ultrasonic washing.

4.4.10.2 Metal plating

A miniplater vessel must contain no more than 1.5 L of precious metal solution.

4.4.10.3 Housekeeping practices

Chemicals used on the premises must be stored in a manner that leaks or spills cannot drain to the sewerage or stormwater systems.

4.4.11 Laboratory

Discharges from the following laboratories are included in Classification A:

- analytical
- pathology.

Laboratories **not** included in Classification A are:

- agricultural or animal health research facilities[14]
- tertiary institutions[15].

4.4.11.1 Pre-treatment requirements

- A balancing pit/tank.

Infectious wastes must be sterilised before being discharged into the sewerage system.

4.4.11.2 Prohibited substances

- Concentrated solutions, acids, caustic and other corrosive chemicals must not be discharged to the sewerage system. Such waste must be removed from the premises by an authorised contractor.
- Solvents must be collected and removed by a licenced contractor, and must not be disposed of into the sewerage system.

4.4.11.3 Chemicals handling

Chemical solutions containing small quantities of the prohibited substances need to be neutralised before discharging to the sewerage system. Chemical containers must be stored in a manner that prevents leaks or spills from draining to the sewerage or stormwater systems.

14 Classification C discharge.

15 Classification B discharge (refer to s. 5.3.4).

4.4.11.4 Housekeeping practices

The discharge of waste from laboratory sinks should be followed by flushing with liberal quantities of water.

Spills and leaks must be cleaned up using dry cleaning methods.

4.4.12 Laundry/laundromat

These activities are limited to laundries and laundromats with a discharge volume not exceeding 5 kL/d. A laundry may have a dry-cleaning section at the same premise (refer to s. 4.4.6 for requirements applicable for dry-cleaning area). The waste from a dry-cleaning area is not allowed into the sewerage system.

4.4.12.1 Pre-treatment requirements

- Lint screens—2 mm (maximum) aperture size
- Cooling pit

The cooling pit must be of a sufficient capacity to cool the discharge to below 38°C (refer to s. F7 of Appendix F). If the cooling pit is covered, venting needs to be provided to accelerate cooling.

The calculations regarding the capacity of the cooling pit must be submitted with the liquid trade waste application. A cooling pit is not required if only cold water is used for washing, or a device reducing the temperature of hot water is installed. Similarly, the requirement for a cooling pit does not apply to laundries that use ozone technology in all washing machines in the premises. Cold water is mostly used in this process.

4.4.12.2 Prohibited substances

Solvents and waste products from a dry-cleaning section, if applicable, refer to s. 4.4.6.

4.4.12.3 Housekeeping practices

Detergents, bleaches, other chemicals and empty containers are to be stored in the bunded area with no drains connected to the sewerage or stormwater systems. Spills and leaks must be cleaned by dry methods.

4.4.13 Mechanical workshops/lawnmower repairs

Mechanical workshop includes the following facilities:

- a stand-alone mechanical workshop
- a service station workshop only (no forecourt discharge)
- lawnmower workshop that conduct mechanical repairs only and no other processes
- motor boat workshop that conduct mechanical repairs only and no other processes
- mobile vans used for carrying out mechanical repairs outside a workshop.

It does not include mechanical workshops associated with an industry or manufacturing facilities, such as a workshop at an airport, bulk fuel depot, train depot, engine reconditioning facility, radiator repairer and panel beater. Liquid trade waste applications for these discharges must be referred to the department for concurrence (unless concurrence for approval of Classification B discharges has been granted to council).

Mechanical workshops located at an existing service station that discharges liquid waste from a covered forecourt or a refuelling bay to the sewerage system are not included in Concurrence Classification A. Those are Concurrence Classification B discharges.

Mobile workshops can carry out some car repairs and servicing like a regular workshop including parts replacement, changing oils, brake fluids, etc. at the client premises or as a roadside assistance. Liquid trade waste approval is not required, if no wastewater is discharged to the sewer.

Photo of a mechanical workshop

4.4.13.1 Pre-treatment requirements

The following pre-treatment equipment must be provided:

- screens fitted to all floor drains
- dry basket arrestor
- collection well
- coalescing plate interceptor/separator, hydrocyclone separation system or a vertical gravity separator sized according to the influent flow rate and installed as per the manufacturer's instructions
- non-emulsifying pump.

The discharger must provide supporting information in regard to sizing of equipment and recommended maintenance schedule.

Some mechanical workshops degrease and wash parts in a part washer and collect wastewater for off-site disposal, so there is no liquid waste discharge to the sewerage system.

In such cases:

- liquid trade waste approval is not required
- council needs to check that there are no floor drains/floor waste outlets connected to the sewerage system
- sinks in the workshop are used for hand washing only. There should be no parts rinsing after degreasing in such a sink
- invoices/receipts for the waste removal by a licenced contractor including details of the disposal facility need to be provided, when requested.

For mobile mechanical workshop, if any wastewater is generated and intended to be discharged to the sewerage system, it needs to be done at the base facility which has appropriate pre-treatment equipment as described in this section.

The following requirements are also applicable to the operators of mobile workshops:

- if parts are washed in a part washer, the solution shall be disposed of at an appropriate facility
- any spent oil, degreasers, hydraulic fluids, radiator fluid shall be collected and securely stored in for recycling or disposal at an appropriate treatment facility
- invoices/receipts for the waste removal, including details of the disposal facility need to be provided, when requested.

Note:
Double and triple-interceptor pits and general-purpose pits are not appropriate pre-treatment equipment units for this type of wastewater (unless exception is given to the existing premises as indicated in s. 3.3.2). Such applications need to be forwarded to the department for concurrence.

4.4.13.2 Prohibited substances/processes

- Discharge of waste from a spray painting area (paint booth)
- Degreasers
- Radiator coolants (ethylene glycol)
- Hydraulic fluids (e.g. brake fluids, transmission fluids)
- Petrol, diesel, discrete oil, kerosene, solvents and other flammable and/or explosive substances, spent chemicals
- Part washer—not to be connected to sewer.

4.4.13.3 Housekeeping practices

- A mineral oil separator is more efficient if detergents are not used (e.g. cleaning is done using high water pressure).
- If the use of detergents cannot be avoided, only quick-break detergents must be used. These detergents allow oil/water emulsion to break quickly (say, within 20–30 minutes) and assist the separation process.
- Oil spills must be dry cleaned prior to wash down.
- Grease blobs must be scraped up before wash down.
- Screens must be used to exclude bolts, nuts, washers and the like from the pump intake.
- Cleaning compounds must be compatible with the pre-treatment system.
- Oils, solvents, hydraulic fluids, chemicals and empty containers must be stored in a separate bunded area that cannot drain to the sewerage or stormwater systems.

4.4.13.4 Draining of radiator coolant

Large quantities of ethylene glycol have the potential to adversely affect the operation of the sewerage system and therefore must not be discharged to the system. Furthermore, large quantities of ethylene glycol increase the emulsification of oils and greases and thereby reduce the efficiency of hydrocyclone separation system, vertical gravity separator or coalescing plate interceptor/separator systems. All radiator coolant must be collected and securely stored for recycling or disposal to an appropriate treatment facility.

4.4.13.5 Use and disposal of solvents

Solvents are often used for cleaning parts. Spent solvents must be collected and taken off-site for recovery or disposal and not discharged to the sewerage system. Measures must be taken to ensure that the area used for parts washing does not drain to the sewerage system or pre-treatment equipment. However, the final rinse water can be discharged to the sewerage system via the pre-treatment equipment, provided that excess solvent is removed by draining and parts are dried before rinsing.

4.4.14 Medical centre/doctor's surgery/physiotherapy (plaster of paris casts, laboratory)

The information in this section is limited to a medical centre, doctor's surgery or physiotherapy practice involved in the application of plaster of paris casts[16] to patients and/or that may have a pathology laboratory on-site.

It does not include premises if more than four liquid trade waste streams are discharged to the sewerage system from a premises, or discharges are from a hospital or teaching facility. These are Classification B discharges.

4.4.14.1 Pre-treatment requirements

The wastewater generated by the activities is to be treated with:

- a plaster arrestor, if plaster of paris casts are applied
- a balancing pit for laboratory wastewater—refer to s. 4.4.11.1 of these guidelines.

4.4.14.2 Disposal of solid waste

Refer to s. 4.4.5.2.

4.4.15 Mobile cleaning units

This is limited to mobile cleaning of carpets, blinds, garbage bins, graffiti removal etc. Note, that no liquid trade waste approval is required if the wastewater is not discharged to the sewerage system, however, council needs to ensure that the wastewater and/or cleaning solutions are disposed of in an appropriate manner.

The activity does not include mobile cleaning units used for cleaning greasy kitchen appliances such as ovens, exhaust fans/range hoods, racks, etc. Wastewater arising from such activity may include strong caustic solutions.

Also. wastewater from some cleaning activities, eg. graffiti removal, may include strong chemicals, solvents, etc.

Such wastes are prohibited to discharge into a council's sewerage system.

4.4.15.1 Mobile cleaning units (carpet cleaning, cleaning of blinds, etc.)

This includes mobile units used for cleaning of carpets, soft furnishing/upholstery, blinds, etc.

16 Plaster of paris is calcined gypsum used in a bandage which hardens after it is wetted. A plaster arrestor is not required if a practice does not use plaster of paris, e.g. fiberglass or thermoplastic bandages are used.

4.4.15.1.1 Pre-treatment requirements

A filtration system with 20 micron screens must be fitted to a carpet cleaning unit.

4.4.15.2 Garbage bin washing

This includes washing of garbage bins located at commercial premises by a mobile unit operator. The activity involves a tank mounted on a trailer where the garbage bins are washed. The wastewater is then discharged to the sewerage system. The mobile units are expected to have inbuilt screens.

4.4.15.2.1 Pre-treatment requirements

The following requirements are applicable to commercial premises where garbage bins are being cleaned—a mobile unit operator needs to use these facilities where available:

- A dry basket arrestor to all floor wastes in the washing area that drain to the sewerage system.
- discharge via the on-site grease arrestor, if available on-site and practical to connect.

The activity must not be carried in a way that may cause pollution of stormwater.

4.4.16 Nursing homes

Liquid waste may be generated by a number of activities:

- food preparation—refer to s. 4.3
- boiler blowdown—refer to s. 4.4.2
- cooling tower—refer to s. 4.4.3
- laundry—refer to s. 4.4.12
- hairdressing—refer to s. 4.4.9
- other activities (e.g. swimming pool, workshop)—refer to the relevant sections in this chapter.

Note:
If there are more than four liquid trade waste streams on the premises, such applications are treated as Concurrence Classification B. This requirement does not include discharges shown on a 'deemed to be approved' list (refer to s. 4.1).

4.4.16.1 Food preparation

Refer to Table 9 and s. 4.3.3. Some nursing homes do not cook/prepare food on-site. A grease arrestor will be still required if dishes/utensils are washed on-site.

4.4.16.2 Food waste disposal units

Discharge of waste from food waste disposal units (also known as in-sink food waste disposers or garbage grinders), if already installed in an existing nursing home with council's approval, may be allowed. In such case, the size of a grease arrestor should be in accordance with s. F5.2 of Appendix F, or the arrestor needs to be pumped out more frequently. Also, it will incur a food waste disposal charge per bed as indicated in s. 8.3.8.1.

If the nursing home kitchen is refurbished, the food waste disposal unit must be removed. The unit is not permitted to be installed in new premises.

4.4.16.3 Laundry

Some nursing homes may use external service providers but may also have domestic type washing machines for the personal use of residents (1 to 3 machines). In such cases, a cooling pit is not required. However, a device reducing the temperature of hot water must be installed.

4.4.16.4 Prohibited or restricted liquid waste/processes

Liquid waste from the following equipment/processes are either prohibited or restricted (refer to ss. 3.2.2.7 to 3.2.2.10 for further details):

- macerators
- solid food waste processing equipment (digesters/composters, etc.)
- use of additives in pre-treatment system
- infectious waste, which must be sterilized prior to discharge
- biohazardous waste, which must be disposed in accordance with NSW Health regulations
- disposal of medication—Refer to s. 5.3.6.1.3
- disposable waste products (wet wipes, colostomy bags and other products marketed as flushable). Any disposable solid products including those marketed as 'flushable' (such as flushable wet wipes, cleaning wipes, cat litter, etc.) are not permitted for flushing as they do not breakdown in the sewerage system and may cause blockages within the discharge premises itself or in the council's sewerage system
- solid waste such as hypodermic needles, syringes, instruments, utensils, swabs, dressings, bandages, paper and plastic items of a disposable nature, or human tissues must not be discharged to the sewerage system. Such wastes are to be disposed of in accordance with NSW Health policy directive of 2017 'Clinical and Related Waste Management for Health Services', which advises on the safe handling, storage and disposal of clinical, cytotoxic, pharmaceutical and chemical wastes.

4.4.17 Optical service and glass cutting/grinding activities

The information in this section is limited to optical services and other businesses activities that generate liquid waste associated with cutting and grinding of glass or plastic. Those may include retail premises, workshops, medical or educational training facilities etc.

The activity does not include discharges from glass manufacturing premises (Classification C discharge).

4.4.17.1 Pre-treatment requirements

A baffled settling tank with two hours minimum detention time is required. Minimum capacity is 500 L.

The tank is to be sized according to the flow rate. The tank must be easily accessible and maintained regularly.

4.4.18 Pet shop (retail)

Pet shops include retail outlets that buy and sell animals to the public.

4.4.18.1 Pre-treatment requirements

Refer to s. 4.4.1.1.

4.4.18.2 Other issues

Refer to s. 4.4.1.

4.4.19 Photographic (non-digital)

This includes tray work/manual development.

This is limited to small operations, such as hobby clubs, cottage industries, etc. It does not include graphic arts activities.

4.4.19.1 Pre-treatment requirements

All 'spent' solutions need to be collected and transported off-site by a licenced contractor. Only rinse and sink waters are permitted to be discharged to the sewerage system.

A balancing tank/pit is not required.

4.4.20 Plants (retail)

This is limited to stand-alone shops or those located within a shopping centre that sell plants direct to public.

Shops with an open area where ingress of stormwater to the sewerage system is not prevented or wholesale plant nurseries are not included. These applications must be forwarded to the department for concurrence.

4.4.20.1 Pre-treatment requirements

- Sink screens
- A dry basket arrestor for all floor waste outlets connected to the sewerage system.

4.4.20.2 Prohibited substances

Fertilisers, herbicides/pesticides must not be discharged to the sewerage system.

4.4.20.3 Housekeeping practices

Fertilisers, herbicides/pesticides and other chemicals used on the premises must be stored in a way that leaks or spills cannot drain to the sewerage system or stormwater system.

Floors need to be dry swept before hosing down.

4.4.21 School

The discharges from the activities listed in Table 12 are included in this classification.

Table 12. Pre-treatment requirements for discharges from schools

Activity	Pre-treatment
Canteen (minimal or no cooking)	refer to ss. 4.3.1 & 4.3.2
Canteen (hot food cooking)	refer to ss. 4.3.1 & 4.3.3
Home science (cooking)[17]	refer to ss. 4.3.1 & 4.3.3
Cooling towers	refer to s. 4.4.3
Crafts	refer to s. 4.4.4
Photographic (non-digital)	General-purpose pit or dilution pit[18]
Science laboratory	Dilution pit (minimum requirement of one-hour detention time)
Other	If any liquid waste generating activity either refer to the relevant section in these guidelines or contact the department

The use of a general-purpose pit or a dilution pit for pre-treatment of non-digital photographic waste is considered appropriate in a school environment. Operating a silver recovery unit is not practicable due to irregular use and insufficient flow to operate the unit satisfactorily.

Storage of photographic waste for off-site management is not recommended due to high risks associated with handling highly corrosive liquids in a school environment.

4.4.22 Stone working

Stone working activities include monumental masonry for cemetery headstones, crypts etc., architectural stone preparation for buildings (external and internal features) and sculptures. Materials used may include marble, granite and sandstone.

4.4.22.1 Pre-treatment requirements

A solids settlement pit/tank is required. The tank needs to have a minimum capacity of 1,000 L or be sized according to the flow to give a one-hour minimum detention time, whichever is greater.

The discharger needs to clean the tank regularly.

4.4.22.2 Recycling

Recycling and/or reuse of liquid waste needs to be considered as the first option. This may involve installation of a series of settling tanks with the occasional addition of make-up water.

17 The wastewater must be discharged through a grease arrestor only if practical and it is available for other activities, e.g. at a canteen.

18 A general-purpose pit or a balancing tank, if provided for other waste streams, for example in a laboratory, and it is feasible to connect, is sufficient to pre-treat photographic waste prior to discharge into the sewerage system.

4.4.23 Surfboard manufacturing (wet process only)

This activity includes making a surfboard using a polyurethane foam mould. The mould is shaped by using sanding equipment, painted and then a polyester or epoxy resin is applied. As a final step, the board is sanded and polished. This final step may be a wet or dry process.

Modern manufacturing processes no longer use wet sanding and polishing methods. Dust from a dry process is extracted through extraction units with filters and any waste left on a ground is swept or vacuumed.

Liquid waste generated by wet sanding and polishing processes may contain fine particles, fiberglass and some residual chemicals.

4.4.23.1 Pre-treatment requirements

4.4.23.1.1 Dry process

No liquid waste is generated. Council needs to check that there are no floor drains connected to the sewerage system.

4.4.23.1.2 Wet polishing process

- Fine screening
- A silt trap or a solids settlement pit/tank. The discharger is required to clean the pit/tank regularly.

It is beneficial for the discharger with a wet process to switch to a dry process in order to avoid paying any liquid trade waste fees and charges.

4.4.23.2 Storage and disposal of chemicals

Some materials used in surfboard manufacturing are flammable and/or hazardous. All paints and chemicals are to be stored so that leaks or spills cannot drain to the sewerage or stormwater system. Spent chemicals must be removed from the premises by a licensed contractor.

4.4.23.3 Prohibited substances/processes

Discharge of waste from a spray painting area (paint booth) to the sewerage system is not permitted.

4.4.24 Swimming pool/spa/hydrotherapy

Discharges from non-residential swimming pools and spas (including hydrotherapy units) are classified as liquid trade wastes. Some examples of such premises include:

- municipal (public) facilities
- hotels and clubs
- nursing homes or medical facilities, such as hospitals (hydrotherapy units)
- fitness facilities such as gyms (excluding wastewater from float tanks)
- tourist resort facilities including caravan parks (excluding wastewater from float tanks)
- education facilities
- animal facilities such as horse/greyhound racing and training facilities.

Discharge of filter backwash water from swimming pools and spas at premises listed above require council's approval.

4.4.24.1 Pre-treatment requirements

- Small swimming pools ≤ 55,000 L capacity—no pre-treatment is required
- Swimming pools > 55,000 L capacity—filter backwash water must be collected in a holding tank and discharged into the sewer at a controlled rate. Solids settled at the bottom of the holding tank needs to be removed for off-site disposal and not be discharged into the sewer.

4.4.24.2 Prohibited substances

- Strong detergents or acids
- Wastewater from float tanks (refer to s. 3.2.2.5).

The wastewater arising from cleaning of pool surfaces by using strong detergents or acids is not permitted to be discharged to the sewerage system. The discharger is required to provide council in advance the details of cleaning substances, if any, (including brand name, quantity, safety data sheet, where appropriate) intended to be used for cleaning of pool surfaces and proposed disposal arrangements.

4.4.24.3 Emptying the pool

Council is required to be notified in advance when the pool is to be emptied for cleaning or maintenance purposes. Council needs to determine an appropriate controlled flow rate to the sewerage system and may limit the time of discharge to low-flow periods in the sewer. This type of activity should not be undertaken during wet weather periods.

4.4.24.4 Salt-water pools

With regards to discharges from salt-water pools, council may set an acceptance limit for total dissolved solids to suit its local conditions.

4.4.24.5 Float tanks

The disposal of float tank water to a council's sewerage system is not permitted.
Refer to s. 3.2.2.5.

4.4.25 Vehicle washing/detailing

This activity is divided into two groups:

- commercial vehicle washing
- small non-commercial vehicle washing facilities (non-residential).

4.4.25.1 Commercial vehicle washing

This includes commercial facilities providing the following services:

- washing of vehicles by hand or with a high-pressure wand
- drive-through car wash
- washing of vehicle underbodies
- bus depot (no dump point and/or refuelling point area connected to the sewerage system)

- external truck/tanker wash (excluding activities indicated below)
- mobile car detailing, if the wastewater is discharged to the sewerage system.

The discharges from the following processes are not included in Classification A:

- internal truck or tanker washing*
- external washing of trucks and tankers transporting hazardous materials (e.g. fuel, other flammable substances, pesticides, etc.)*
- washing of hire/construction/agriculture/plant equipment#
- washing of truck platforms/flatbeds# [19]
- discharge from an existing covered forecourt or refuelling bay# if already connected to sewer
- livestock transportation trucks*
- bus depot if a dump point and/or a refuelling point area connected to the sewerage system
- external washing of garbage trucks#.

* Concurrence Classification C
\# Concurrence Classification B

Those listed as Classifications B or C above may require additional pre-treatment (refer to chapter 5 or 6).

4.4.25.1.1 Pre-treatment requirements

The following pre-treatment equipment must be provided:

- screens fitted to all floor drains
- dry basket arrestor
- collection well
- coalescing plate interceptor/separator, hydrocyclone separation system or a vertical gravity separator sized according to the influent flow rate and installed as per manufacturer's instructions
- non-emulsifying pump.

Where an applicant proposes to wash and detail muddy vehicles (such as at a truck wash), a general-purpose pit to provide one-hour detention time must be provided prior to an oil separator. The minimum capacity of the pit is to be 1,000 L. In some cases where such vehicles are washed, council may require that a large collection pit accessible for cleaning by using machinery, such as a backhoe, be provided upstream of a general-purpose pit.

4.4.25.1.2 Detergents

Only quick-break detergents are to be used in the washing process. All chemicals must be stored in such a manner that spills and leaks are prevented from entering the sewerage or stormwater systems.

4.4.25.1.3 Electrical equipment used in treating liquid waste

Refer to ss. 4.1.4, and F3.1.2 in Appendix F.

19 This is applicable only to trucks transporting dry goods that can be spilled during delivery on a truck platform, e.g. flour, rice, agricultural products, etc.

4.4.25.1.4 Prohibited substances

Refer to s. 4.4.13.

4.4.25.1.5 Housekeeping practices

Refer to s. 4.4.13.

4.4.25.1.6 Use and disposal of solvents

Refer to s. 4.4.13.

Photo of a carwash facility

4.4.25.2 Small non-commercial vehicle washing

This includes non-commercial vehicle washing, which is limited to a few vehicles washed per week by hand or with a high-pressure wand. Such examples may include a facility for ambulances, police vehicles, funeral parlour vehicles, ranger's vehicles or small delivery vans.

This does not include premises with mechanical workshops or washing trucks, even if it's not a commercial activity.

It is also not applicable to vehicle washing facilities provided for residential use only, as the residential use does not require liquid trade waste approval.

4.4.25.2.1 Pre-treatment requirements

- Screens fitted to floor drains/floor waste outlets with dry basket arrestor
- Solids settlement pit/silt arrestor, if muddy vehicles are washed (e.g. ranger's vehicle).

Note:
An oil separator is not required for a small, non-commercial vehicle wash.

4.4.25.2.2 Detergents

All detergents must be biodegradable. They must be stored in a manner that spills and leaks are prevented from entering the sewerage or stormwater systems.

4.4.26 Veterinary surgery

This includes stand-alone veterinary surgeries. It does not include discharges from veterinary hospitals, if there are more than four liquid trade waste streams (Concurrence Classification B). Also, discharges from veterinary research facilities are not included (Classification C).

Veterinary surgeries may have additional activities that generate liquid waste, such as kennels, pet grooming, etc. Refer to relevant activities in s. 4.4.1 and Table 11 in regard to pre-treatment requirements.

4.4.26.1 Pre-treatment requirements

Refer to s. 4.4.1.1.

4.4.26.2 Use of disinfectants for sanitation purposes and pesticides for flea control

Refer to s. 4.4.1.2.

4.4.26.3 Prohibited substances/equipment/processes

Refer to s. 4.4.1.3.

4.4.26.4 Alkaline hydrolysis process

Refer to s. 4.4.1.3.

4.4.26.5 Housekeeping practices

Refer to s. 4.4.1.4.

4.4.26.6 Disposal of solid waste

Refer to s. 4.4.1.3.

5 Concurrence Classification B—concurrence available

5 Concurrence Classification B—concurrence available

This chapter provides information on the assessment and approval process of liquid trade waste applications in Concurrence Classification B. Refer to Figure 6 in regard to procedures involved with assessment of liquid trade waste applications. This chapter also provides detailed information on pre-treatment requirements and recommended conditions of approval for liquid trade waste discharges in this classification.

It also describes procedures for obtaining assumed concurrence for approval of:

- liquid trade waste applications in Concurrence Classification B
- liquid trade waste discharges with undersized grease arrestors.

5.1 What is Concurrence Classification B?

Concurrence Classification B comprises medium-risk commercial and industrial discharges for which councils may apply for assumed concurrence (refer to ss. 5.1.2 and 5.1.3).

Concurrence Classification B discharges are defined as:

- discharges from commercial activities listed in Table 13, subject to the volume restrictions as indicated in the table
- discharges from any Classification A activity (as listed in Table 9 and Table 10) that exceeds the Classification A volume limit (16 kL/d for food-related activities and 5 kL/d for other activities)
- more than four Concurrence Classification A liquid trade waste discharges from a single premises or a complex. This requirement does not include discharges shown on the 'deemed to be approved' list (refer to Appendix D).
- discharges where the maximum daily discharge volume does not exceed 20 kL.

5.1.1 Prohibited discharges

In addition to prohibited substances listed in Table 7 in chapter 3, discharge of wastewater to the sewerage system from the following areas/activities is not permitted:

- spray paint booth
- battery room
- PFAS contaminated water
- new service station forecourts and other new refuelling points (e.g. bus depot)
- chemical storage areas
- depuration water from oyster processing facilities.

Table 13. Discharges in Concurrence Classification B

Activity	Maximum daily discharge volume (kL)
Auto-dismantler	20
Bus/coach depot with an existing refuelling point and/or a dump point	20
Bakery (wholesale)—bread only	20
Boutique or artisan food (for example, honey processing, confectionary, jams, pickles, juices, cheese)	1 (not to exceed 5 kL/week)
Butcher (wholesale)	20
Construction equipment, agricultural equipment and equipment hire maintenance and cleaning	20
Cooling towers over 500 L/h (non-industrial)	20
Educational facilities—tertiary institution (TAFE, university, etc.)	No limit
Engine reconditioning	5
Fish co-op	20
Hospital	No limit
Laboratory—tertiary Institution, except animal health or agricultural research, PC2 and PC3 laboratories	5
Microbrewery	5 (not to exceed 10 kL/week)
Oyster processing—shucking	20
Panel beating	20
Photographic—graphic arts	5
Radiator repair	5
Screen printing	20
Service station covered forecourt/other refuelling points (existing only)	5
Shopping complex	No limit
Truck washing—truck platforms/flatbed/garbage truck	20

Pre-treatment requirements and recommended conditions of approval for Concurrence Classification B discharges are listed in Table 16.

5.1.1.1 Multi-activity premises

Refer to s. 4.1.8.

5.1.2 Concurrence

Council may apply for the assumed concurrence for Concurrence Classification B discharges. All such requests need to be forwarded to the Water Utilities Branch of the Department of Planning, Industry and Environment. Assumed concurrence may be granted if council satisfies the eligibility requirements set out in this section.

5.1.2.1 Requirements for assumed concurrence

Councils that meet the following requirements are eligible and are encouraged to apply to obtain assumed concurrence to approve Classification B discharges:

- council has a current liquid trade waste regulation policy endorsed by the department (refer to s. 3.4.2)
- a liquid trade waste officer has been appointed to deal with liquid waste matters (refer to Note 1 below). The officer has significant experience in liquid trade waste regulation including:
    - assessment of liquid trade waste applications, including the ability to identify potential pollutants in a proposed discharge
    - conducting on-site inspections
    - sampling.
- council maintains registers of:
    - all liquid trade waste dischargers within its area. The register needs to include the name of the business, type of waste, type and size of pre-treatment equipment and the approved quantity of discharge, approval date and other relevant details
    - all liquid waste generators (refer to Note 2) that do not discharge to council's sewerage system. The register must include the discharge location. This is to ensure that council is aware of all potential sources of an unauthorised discharge.

As a condition of assumed concurrence, council is required to:

- issue liquid trade waste approvals in accordance with the provisions set out in these guidelines, or its amendments
- provide an annual report to the department with a list of liquid waste discharges approved by council under assumed concurrence, using the form on the department's password protected website
- maintain the register of liquid trade waste discharges
- maintain the register of liquid waste disposal to other destinations, including the details of the waste generator, transporter and disposal location.

Councils may be audited by the department to ensure that they are complying with the requirements of assumed concurrence (refer to Figure 2).

Note 1:
If the services of an experienced officer become unavailable after council has been granted assumed concurrence for Classification B and undersized arrestors, all such applications must be forwarded to the department for concurrence until a suitable replacement is in place.

Note 2:
Nominated liquid waste generators that do not discharge to the sewerage system may include businesses that:

- manage their waste by means other than discharge to the sewerage system. Council needs to be satisfied that the waste is managed in environmentally sustainable manner or disposed at an appropriate facility
- produce waste deemed unsuitable for discharge to the sewerage system and/or generate wastes such as prohibited matter, and wastes that may have a detrimental effect on the sewerage system, worker health and safety or the environment.

5.1.2.2 When assumed concurrence is not available

Assumed concurrence is not available for approving applications where an applicant proposes:

- an undersized grease arrestor and council has not been granted assumed concurrence
- to discharge the waste from a solid food waste processing unit (e.g. digester/composter) directly to the sewerage system or via a pre-treatment equipment (refer to s. 3.2.2.10 – Concurrence Classification C discharge).
- to discharge waste from a triple or double interceptor pit (used for pre-treatment of mineral oily wastewater) at an existing automotive or mechanical repairs-related premises
- an alternative pre-treatment to those listed in Table 9, Table 11 and Table 16 or pre-treatment is not provided when required
- to discharge waste from a grease arrestor with an individual capacity > 5,000 L
- to discharge stormwater from an open area
- to discharge waste that does not meet the acceptance limits (only if applicable to an activity) detailed in Table 6.

Such applications must be referred to the department for concurrence (refer also to s. 1.9).

Councils that have assumed concurrence for Classification B discharges will also be provided with assumed concurrence for approving discharges from some undersized grease arrestors as indicated in s. 5.1.3. However, applications for undersized grease arrestors that do not meet the requirements indicated in this section need to be forwarded to the department for concurrence.

5.1.3 Discharges from undersized grease arrestors

A council that has been granted assumed concurrence for Classification B discharges may also be eligible to apply for assumed concurrence for some existing discharges with an undersized grease arrestor (size restrictions are applicable). The following requirements must be satisfied:

- Assumed concurrence for exceptions (as described in s. 3.3) is applicable only to the existing Classifications A and B dischargers with an undersized grease arrestor.
- The required capacity of an arrestor needs to be determined in accordance with the process outlined in Appendix F (s. F5.2) which is consistent with provisions in the National Guideline for Managing Food, Fats, Oil and Grease from Food Premises. The size criteria in Table 14 must be met.
- Appropriate housekeeping practices must be implemented by the discharger (refer to s. F11 of Appendix F).
- The approval needs to include conditions relevant to the discharge and conditions 79, 81 and 82 as shown in Appendix E.
- Council's approval will only be applicable to the existing applicant and will not be transferable. If the type or the scale of the discharge changes or renovations/refurbishment is carried out, the approval will be reviewed. Generally, installation of an appropriately sized grease arrestor will be required.

Table 14. Size criteria for authorised concurrence

Required grease arrestor capacity (L)	Existing grease arrestor capacity (L)
1,000	≥ 500
1,500	≥ 750
2,000	≥ 1,000
> 2,000	Assumed concurrence is not available

The initial pump-out frequency should be set in accordance with Table 15.

Table 15. Initial pump-out frequency for undersized arrestors

Existing grease arrestor capacity as a percentage of the required capacity (%)	Initial pump-out frequency (weeks)
50–70%	4–6
> 70% and < 85%	8

Assumed concurrence for discharges from undersized grease arrestor is not available:

- if the existing arrestor is smaller than 50% of the required capacity
- where the required capacity of the grease arrestor is > 2,000 L
- for premises without a grease arrestor
- for new/proposed premises with an undersized grease arrestor.

5.2 The approval process for Concurrence Classification B

5.2.1 Information applicants need to supply

Council must ensure that an applicant is aware of information that needs to be provided with the application. To assist councils, a sample application form is provided in Appendix C. It sets out the minimum information that needs to be supplied by an applicant. Council may adapt this form to suit its administrative procedures.

Information to be provided with the application should include:

- signed application form (signature of the owner or a person who has the consent of the owner—refer to s. 2.4.2)
- the applicant's contact details
- drainage diagrams and plans of the site
- type of process/activity generating the liquid waste
- chemicals to be used and their safety data sheets
- expected quantity and rate of discharge
- list of substances expected to be present in liquid waste streams intended for discharge
- expected quality after pre-treatment—sample data, guaranteed by equipment supplier or recommended by consultant (generally, this requirement is not applicable to discharges with prescribed pre-treatment equipment)
- details of the proposed pre-treatment equipment including other instrumentation requirements—flowmeter, pH recorder, etc.
- maintenance schedule for pre-treatment equipment, including all pits, tanks, pumps, etc. and details of maintenance personnel
- measures taken for prevention of stormwater ingress to the sewerage system
- details of chemical handling and storage facilities, where applicable
- disposal arrangements for liquid waste not permitted to be discharged to the sewerage system.

5.2.2 Assessing and approving an application

Council needs to check whether the applicant has provided all necessary information to assess the application and that the application is signed by the owner of the premises or a person who has the consent of the owner.

There are several factors to consider as part of the assessment process, as discussed in s. 2.5.1. Two of the most important factors are whether the sewerage system has the capability to accept the quality and quantity of liquid trade waste proposed to be discharged and whether appropriate pre-treatment equipment will be provided. Council may need to carry out a preliminary site inspection, if applicable (refer to s. F14 of Appendix F).

In addition to the factors detailed above and in s. 2.5.1, the following information also needs to be considered in the assessment process:

- whether the proposed pre-treatment equipment is appropriately sized and/or capable of producing effluent that meets council's acceptance requirements
- the management of liquid waste not permitted to be discharged to the sewerage system, such as prohibited matter, sludge, etc. The discharger must include the description and quantities of liquid waste, the frequency of liquid waste collection, disposal destination and transport contractor details
- monitoring requirements/procedures—sampling parameters and frequency of sampling, if applicable.

If council intends to approve a liquid waste discharge in this classification, it must forward the application and its draft approval conditions to the department for concurrence unless council has been granted assumed concurrence for Classification B (refer to s. 1.9.2). Table 16 lists the recommended conditions of approval for Concurrence Classification B discharges.

5.2.2.1 Flow measurement

In general, flow measurement is not required for many discharges listed in this classification. However, council needs to ensure that the daily discharge volume does not exceed the approved limit.

Where flow measurement is not provided, the daily discharge volume can be assessed using the water consumption data or by other means such as by the number of fixtures or number of meals prepared, installing a dedicated water meter to the activity area, etc.

Based on the nature and scale of the discharge, installation of a magnetic flow meter may be required in some cases (for example in a microbrewery).

5.2.2.2 Sampling

In general, for discharges requiring prescribed pre-treatment equipment, either no sampling or sampling for limited parameters is required in accordance with the nature of discharge.

Discharge from boutique/artisan food businesses and microbreweries may require regular sampling (based on the discharge volume and/or the nature of waste) in order to ensure compliance with the approval.

Sampling frequencies for some discharges are indicated in Table 16.

For general equipment installation requirements and chemical storage areas, refer to ss. 4.1 and F3.1 in Appendix F.

Figure 6. Procedure for approval of Classification B applications and discharges with undersized grease arrestors

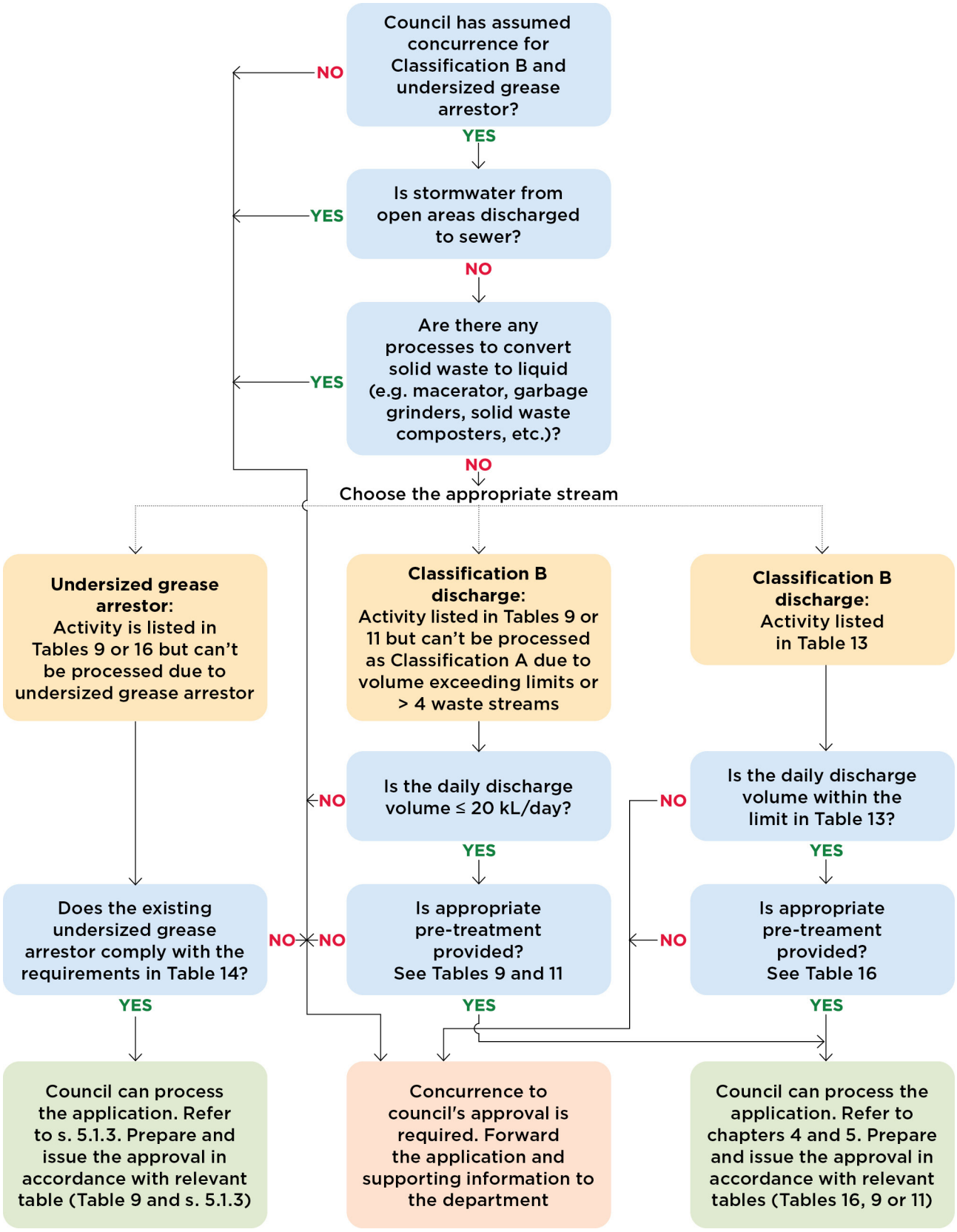


Table 16. Concurrence Classification B discharges, recommended pre-treatment and conditions of approval

Activity generating liquid trade waste	Pre-treatment type (refer to Table 8)	Conditions (see Appendix E)	Section of guidelines
Auto dismantler	2, 4	1–12, 20–25[a], 53, 55, 56, 59[m], 59[n], 65[b], 66	5.3.1
Bus coach depot with vehicle washing and/or workshop	2, 4	1–12, 20–25[a], 53, 55, 56, 59[m], 59[n], 65[b], 66	4.4.25
Bus coach depot—refuelling point (existing)	2, 4	Refer to 'Service station forecourt' in this table	5.3.11
Bus coach depot—dump point	2, 4	95, 96	7.5.2
Bakery (wholesale)—bread only	2, 3	1–12, Note 2	4.3.1, 4.3.2
Boutique or artisan food (≤ 1 kL/day) (for example cheese making, honey processing, confectionary, homemade condiments, jams, pickles, juices)	2, 3 and other specific requirements	1–12, Note 2	5.3.2
Butcher (wholesale)	1, 2, 3	1–18, Note 2	4.3.1, 4.3.3
Construction equipment, agriculture equipment/ equipment hire maintenance and cleaning	2, 4, 7 or 8	1–12, 20–25[a], 44[f] or 45, 53, 55, 56, 59[m], 59[n], 65[b], 66	5.3.3
Cooling towers over 500 L/h (non-industrial)	6	1–3, 5–10, 43, 50, 53	4.3.3
Education facilities: tertiary institution (TAFE, university, etc.)			
—general		1–12	4.3
—food preparation and serving	1, 2, 3	Refer to Table 9	4.3
—art & craft	Refer to Table 11	Refer to Table 11	4.4.4
—laboratory (analytical, research or pathology, excluding animal health, agricultural research, PC2/PC3 labs)	6	Refer to Table 11	4.4.11, 5.3.4
—other	Specific requirements apply	Refer to Table 11 and Note 2	–
Engine reconditioning	2, 4	1–12, 20–25, 53, 55, 56, 59[m], 59[n], 65[b], 66	5.3.1
Fish co-op	2, 3/scale arrestor	1–12, 53, 55, 59[u], 65[c], 66, Note 2	5.3.5

Activity generating liquid trade waste	Pre-treatment type (refer to Table 8)	Conditions (see Appendix E)	Section of guidelines
Hospital			
—general		1–11, 21–22, 30, 35, 36, 37, 52, Note 2	–
—food preparation and serving	1, 2, 3	Refer to Table 9	4.3
—dental clinic	AT, 10	29–31	4.4.5
—plaster of paris preparation	10	29. Refer to Table 11	4.4.14
—hydrotherapy pool	–	Refer to Table 11	4.4.24
—mortuary—autopsy table	2, 3 (at drainage outlet)	32–34, 35[d]. Refer to Table 11	4.4.8
—pathology laboratory	6	Refer to Table 11	4.4.11
—sterilisation units	Note 1	46[d]	5.3.6.2.1
—renal units	Note 1	34[d]	5.3.6.2.1
—nuclear medicine facilities	Classification C discharge	Concurrence required	5.3.6.2.2
—PC2/PC3 laboratory	Classification C discharge	Concurrence required	5.3.6.2.2
—other	Specific requirements apply	Refer to Table 11 where applicable or contact the department	–
Microbrewery	2, 3, pH correction and other specific requirements	1–12, 21, 22, 43, 45, 53–55, 57, 58, 59[v], 59[w], 62, 63, 65[g], 66, 70, 72, Note 2	5.3.7
Oyster processing—shucking	2, 3, 7 or 8	1–12, 44 or 45, 53, 55, 59[u], 65[c], 66, Note 2	5.3.8
Panel beating	2, 4	1–12, 20–26, 53, 55, 56, 59[m] 59[n], 65[b], 66, 74	5.3.9
Photographic—graphic arts	–	1-9, Note 2	_
Radiator repair	8	1–12, 21, 22, 25[a], 27, 45, 53–56, 65[e], 66, Note 2	5.3.10
Screen printing	–	1-9, 22, Note 2	–
Service station forecourt/ refuelling point (existing only)	2, 4	1–12, 20–24, 28, 53, 55–56, 59[m], 59[n], 65[b], 66, 74	5.3.11
Shopping complex	Activity based	74. Refer to Table 9 and Table 11	5.3.12
Truck washing—truck platforms/flatbeds	2, 4, 7 or 8	1–12, 20–24, 44[f] or 45, 53, 55, 56, 59[m], 59[n], 65[b], 66	5.3.13
Truck washing—garbage trucks (external only)	2, 4, 7 or 8	1–12, 20–24, 44[f] or 45, 53, 55, 56, 59[m], 59[n], 65[b], 66	5.3.13

Notes for Table 16

a If parts washer installed at premises

b Samples to be tested every 6 months for suspended solids, TRH and total oil and greases

c Samples to be tested every 6 months for suspended solids and total dissolved solids

d Where applicable

e Samples to be tested every 6 months for pH, total oil and grease, suspended solids

f Where necessary

g Recommended to test for pH, BOD, COD, suspended solids, total dissolved solids, TKN, total phosphorous every 3 or 6 months

m Refer to Condition 59m for TRH limit

n Refer to Condition 59n for flammable petroleum hydrocarbons limit

u Refer to Condition 59u for total dissolved solids limit

v Refer to Condition 59v for TKN

w Refer to Condition 59w for total phosphorus

Note 1:
The wastewater may need to pass through a cooling or a general-purpose pit, if high temperature is of concern—refer to s. 5.3.6.2

Note 2.
Additional conditions in accordance with the activity are applicable

It should be noted that for Classification A discharges which become Classification B due to volume limits are not listed in Table 16. For those discharges, in addition to requirements listed in chapter 4 (Table 9 or Table 11), further requirements may apply (e.g. laundry or boiler discharging > 5kL/d may require pH correction).

Also, sampling frequencies for activities in Classification B need to be determined on a case-by-case basis. The recommended sampling frequency for activities listed in Table 16 is as shown under individual activities.

5.3 Classification B discharges

Concurrence Classification B discharges are listed in Table 16 and described below, including relevant pre-treatment requirements and other associated issues. In addition to prohibited waste listed in Table 7 and s. 5.1.1, activity-specific prohibited waste is listed under each activity.

5.3.1 Auto dismantler/engine reconditioning

This activity may include:

- dismantlers—dismantling of vehicles to remove salvageable parts
- engine reconditioning—dissembling of engine parts and reconditioning by thorough cleaning, re-grinding and boring.

The liquid waste may be generated by the following activities:

- parts washing
- engine degreasing/reconditioning
- rinse water from the engine test area
- vehicle and floor washing.

It is preferable to use dry processes where possible. Small parts should be washed in a solvent-recycling part washer located in an area with no drainage to the sewer.

However, if the wastewater is proposed to be discharged to the sewerage system, the wash area must be sealed, bunded and roofed.

5.3.1.1 Prohibited substances

- Degreasers
- Radiator coolants (ethylene glycol)
- Hydraulic fluids-(e.g. brake fluids, transmission fluids)
- Petrol, diesel, discrete oil, kerosene, solvents and other flammable and/or explosive substances, spent chemicals
- Part washer—not to be connected to sewer.

The above substances must be collected and removed for off-site management prior to the dismantling.

5.3.1.2 Engine and large parts degreasing

After the application of a degreaser, the engine or other large parts must be wiped using rags. Precautions must be taken to collect excess degreaser by using drip trays and/or removing it by dry methods.

If necessary, large parts can be washed after wiping.

5.3.1.3 Pre-treatment requirements

Pre-treatment requirements are similar to those for mechanical workshop (refer to s. 4.4.13).

5.3.1.4 Detergents

Only 'quick break' detergents to be used in washing.

5.3.1.5 Sampling

Samples need to be collected and tested every six months for suspended solids, total recoverable hydrocarbons, and total oil and greases.

5.3.1.6 Housekeeping practices

Refer to s. 4.4.13 and s. F11 of Appendix F.

5.3.1.7 Use and disposal of solvents

Refer to s. 4.4.13.

5.3.2 Boutique/artisan food industry (≤ 1 kL/day)

These activities include small-scale boutique/artisan food operations such as cheese making, juicing fruits, honey processing, making confectionary, jams and pickles etc. that generate wastewater not exceeding 1 kL/d. Manufacturing activities generating larger volumes of wastewater are included under Concurrence Classification C.

Photo of a cheese manufacturing facility

5.3.2.1 Pre-treatment requirements

1. Screening—applicable to all cottage industries
2. Grease arrestor—where greasy/oily waste is generated (for example cheese making/processing)
3. pH correction—for activities such as juicing fruits, making confectionary, jam, pickling, condiments etc.
4. Wax removal—honey processing

Additional pre-treatment may be required and will be determined on a case-by-case basis.

5.3.2.2 Flow measurement

Refer to s. 5.2.2.1.

5.3.2.3 Waste segregation

Where practical, high-strength waste (such as whey from cheese making, etc.), must be segregated and removed for off-site management.

5.3.2.4 Sampling

Sampling parameters and frequency need to be determined based on the nature of discharge.

5.3.2.5 Housekeeping

Refer to s. F11 of Appendix F.

5.3.3 Construction equipment and equipment hire—maintenance and cleaning

This activity includes cleaning and maintenance of construction and earthmoving equipment, including equipment for hire. The liquid waste may be generated by the following activities:

- equipment washing—such equipment can often be laden with clay and mud
- maintenance and repair activities undertaken in a mechanical workshop. Refer to s. 4.4.13.

5.3.3.1 Wash bays

In general, a wash bay needs to be sealed, bunded and roofed. In some cases, the area cannot be roofed due to the equipment size or other important considerations. Therefore, some liquid trade waste generators may submit an application to discharge first-flush stormwater to the sewerage system.

Acceptance of limited quantities of first-flush water may be considered only if roofing cannot be provided due to important considerations. The information and procedures for submitting such applications together with other requirements are provided in s. F10.3 of Appendix F.

All such applications need to be referred to the department for concurrence as assumed concurrence is not available if the discharge of stormwater from an open area to the sewerage system is proposed.

5.3.3.2 Pre-treatment requirements

The following pre-treatment equipment must be provided:

- screens fitted to all floor drains
- solids settlement pit or a general-purpose pit[20]
- dry basket arrestor
- collection well
- coalescing plate interceptor/separator, hydrocyclone separation system or a vertical gravity separator sized according to the influent flow rate and installed as per manufacturer's instructions
- non-emulsifying pump.

20 Where an applicant proposes to wash and detail muddy and soiled equipment or vehicles, for example washing off trucks, mining equipment, etc., a general-purpose pit sized for the maximum flow rate must be provided prior to an oil separator.

5.3.3.3 Prohibited substances

Refer to s. 5.3.1.1.

5.3.3.4 Detergents

Only 'quick break' detergents are to be used in the washing process.

5.3.3.5 Sampling

Samples need to be collected and tested every six months for suspended solids, total recoverable hydrocarbons and total oil and greases.

5.3.3.6 Use and disposal of solvents

Refer to s. 4.4.13.

5.3.3.7 Housekeeping practices

Refer to s. 4.4.13 and to s. F11 of Appendix F.

5.3.4 Education facilities—tertiary institution (TAFE, university, etc.)

The liquid waste may be generated by various activities. Refer to the relevant activity in chapter 4.

5.3.4.1 Laboratory

The following laboratories are included:

- analytical
- pathology
- some research laboratories (excluding those listed below).

Laboratories not included in Classification B:

- agricultural research
- animal health research
- PC2 and PC3 laboratories.

Applications including the above laboratories must be referred to the department.

5.3.5 Fish co-op

The activities generating liquid waste include sorting, grading, bleeding, gutting, washing and subsequently chilling and storing the fish and/or other seafood. The liquid waste is likely to contain blood, fish scales, bones and sea water.

The fish co-op may also include a takeaway section. Refer to Table 9 and s. 4.3.3, if cooking is carried out on-site.

5.3.5.1 Pre-treatment requirements

Typical pre-treatment includes:

- scale arrestor/screening
- settling pit
- additional pre-treatment, if required.

5.3.5.2 Prohibited or restricted substances/processes

5.3.5.2.1 Seawater

Discharge of large quantities of seawater to the sewerage system is not permitted due to its detrimental effect on pump stations and the sewer infrastructure.

Photo of a fish co-op

5.3.5.2.2 Depuration water

Seawater from the depuration process is not permitted to be discharged into the sewerage system.

5.3.5.2.3 Solid food waste digester/composter

Refer to s. 3.2.2.10.

5.3.6 Hospital

Liquid waste may be generated by a range of activities. The following activities have been discussed in chapter 4:

- food preparation (refer to s. 4.3)
- dental clinic (refer to s. 4.4.5)
- plaster cast preparation (refer to s. 4.4.14)
- pathology laboratory (refer to s. 4.4.11)
- mortuary (refer to s. 4.4.8)
- hydrotherapy pool (refer to s. 4.4.24)
- laundry (refer to s. 4.4.12)
- boiler (refer to s. 4.4.2)
- cooling tower (refer to s. 4.4.3).

5.3.6.1 Prohibited or restricted substances/equipment/processes

The following wastes are prohibited to be discharged to the sewerage system (also refer to ss. 3.2.2.7 to 3.2.2.10):

- wastewater from devices that macerate and/or pulverise the waste (for example, bedpan macerator)
- disposable waste products including wet wipes, colostomy bags, and other products marketed as flushable
- wastewater from alkaline hydrolysis process
- infectious waste
- biohazardous waste
- excess/expired medication
- wastewater from solid food waste digester/composter
- solid waste.

5.3.6.1.1 Infectious waste

Infectious waste must be sterilized prior to discharge.

5.3.6.1.2 Biohazardous waste

Biohazardous waste must be disposed in accordance with NSW Health regulations.

5.3.6.1.3 Disposal of medication

Refer to the NSW Health policy directive titled ‘Medication Handling in NSW Public Health Facilities’.

5.3.6.1.4 Solid waste

Solid wastes such as hypodermic needles, syringes, instruments, utensils, swabs, dressings, bandages, paper and plastic items of a disposable nature, or human tissues must not be discharged to the sewerage system. Such wastes are to be disposed of in accordance with the NSW Health Policy directive of 2017 'Clinical and Related Waste Management for Health Services', which advise on the safe handling, storage and disposal of clinical, cytotoxic, pharmaceutical and chemical wastes.

5.3.6.1.5 Solid food waste processing equipment (digester/composter)

Discharge from solid food waste processing units (digesters/composters, etc) to a council's sewerage system is a Concurrence Classification C discharge. Councils need to obtain concurrence to its approval from the department for individual application. Assumed concurrence is not available for such discharge (refer to s. 3.2.2.10).

5.3.6.2 Requirements for some specific activities associated with a hospital are listed in the following sections.

5.3.6.2.1 Renal units and sterilization

Renal units provide haemodialysis for patients with renal failure. The equipment is required to be disinfected using various chemicals and/or heat pasteurisation as per manufacturer specification. The water used in haemodialysis (dialysate) needs to be treated by reverse osmosis (RO). Periodic backwash of the RO system is required to clean the membrane. The backwash and any other wastewater associated with the disinfection of equipment is discharged to the sewerage system.

5.3.6.2.1.1 Pre-treatment requirements

- Cooling pit, if applicable
- Sterilising solutions, if used, need to be neutralised in accordance with the manufacture recommendations (refer to the safety data sheet) prior to disposal.

If instruments and/or equipment are sterilized using heat, the temperature of wastewater needs to be reduced before discharge. However, in order to avoid an excessive number of pre-treatment units, some liquid waste streams can be combined and treated at a centralised treatment unit. For example, the wastewater from a sterilizer can pass through a dilution/ balancing pit provided for laboratory waste, if practical.

The volume of wastewater from a sterilizer is an important factor when deciding whether a cooling tank is required, as the temperature of waste will be reduced after mixing with a large volume of other waste in a hospital environment.

Such wastewater must not be discharged into a grease arrestor due to potential interference with pre-treatment.

5.3.6.2.2 Physical containment level 2 (PC2) and level 3 (PC3) laboratories and Iodine 131 ablative therapies/nuclear medicine facilities

These discharges are not included in Concurrence Classification B. Council needs to contact the department in relation to these applications.

5.3.7 Microbrewery

This includes brewing beer on a small scale (maximum daily discharge 5 kL/d and the weekly discharge not exceeding 10 kL). Liquid waste is generated by cleaning, sanitising and bottling. The wastewater may have variable pH and high concentrations of BOD_5 and suspended solids.

5.3.7.1 Wastes not included in Classification B

Boutique distilleries are not included in this Classification—such discharges are Classification C.

5.3.7.2 Pre-treatment requirements

The following pre-treatment is generally required:

- settling of solids in a suitable process vessel (preferably, with a conical bottom) or a dedicated tank/pit
- screening
- pH correction.

5.3.7.3 Waste segregation

Spent hops, other grains, yeast, etc. must be removed from the premises. Records must be maintained regarding removal of all waste from the premises.

5.3.7.4 Flow measurement

A magnetic flowmeter is required to be installed to ensure the discharge flow does not exceed the approved volume.

5.3.7.5 Sampling

Sampling needs to be undertaken on a quarterly basis. More frequent sampling may be required during the initial stages of operation. Samples need to be tested for pH, BOD_5, COD, suspended solids, TKN and total phosphorus.

5.3.8 Oyster processing—shucking

This activity involves depuration of oysters in clean seawater to remove contaminated intestinal contents and subsequently washing them to remove dirt and growth on the shells. The oysters are then opened (shucked), rinsed with tap water and stored in cool rooms or freezers.

5.3.8.1 Pre-treatment requirements

The following pre-treatment is required:

- screening
- settling pit.

5.3.8.2 Prohibited substances

Seawater from the depuration process is prohibited to be discharged to the sewerage system.

5.3.8.3 Sampling

Sampling frequency needs to be determined based on the volume of liquid waste discharged. The samples need to be tested for suspended solids and total dissolved solids.

5.3.9 Panel beating

The activity includes repairing of damaged vehicle body panels using processes such as re-alignment, shrinking/stretching, planishing, welding, filling and sanding. The repaired part is then spray painted. The liquid waste may be generated by the following activities:

- preparing the vehicle or its parts for spraying
- washing/detailing the vehicle after repairs.

5.3.9.1 Housekeeping practices

Refer to s. 4.4.13.

5.3.9.2 Use and disposal of solvents

Refer to s. 4.4.13.

5.3.9.3 Prohibited substances

Spray paint booths must not be connected to the sewerage system.

Contaminated water from spray booth curtains must be transported for off-site management and not discharged to the sewerage system. Records of pump-outs and disposal arrangements must be made available to council when required.

Refer to s. 4.4.13 for other prohibited substances.

5.3.9.4 Pre-treatment requirements

Refer to s. 4.4.13 for further information regarding pre-treatment and other issues.

5.3.9.5 Sampling

Samples need to be collected and tested every six months for suspended solids, total recoverable hydrocarbons and total oil and greases.

5.3.10 Radiator repair

The activities include service, repair and testing of radiators. Liquid waste is generated by cleaning, rinsing and testing the radiators. In the past, radiators were made from brass or copper cores soldered to brass headers and wastewater from such radiator repair facility contained heavy metals. Modern radiators now use aluminium cores and plastic headers and the level of metals in the liquid waste from the radiator repair facility has been significantly reduced. Considering a relatively low discharge volume, testing of wastewater for heavy metals is no longer required for such facilities.

5.3.10.1 Pre-treatment requirements

The following pre-treatment is required:

- solids settlement pit
- additional pre-treatment may be required in some instances.

5.3.10.2 Prohibited substances/processes

Liquid waste not permitted to be discharged to the sewerage system:

- spent radiator coolant.

Radiator coolants contain glycols to provide antifreeze properties to the coolant. These substances may adversely affect the operation of the sewerage system (refer to s. 4.4.13). All radiator coolant must be collected and securely stored for recycling or disposal at a liquid waste treatment facility.

Refer to s. 4.4.13 for other prohibited substances.

5.3.10.3 Sampling

Samples need to be collected and tested every six months for pH, suspended solids and oil and grease.

5.3.10.4 Housekeeping practices

Refer to s. 4.4.13.

5.3.10.5 Use and disposal of solvents

Refer to s. 4.4.13.

5.3.11 Service station forecourt/refuelling point (existing only)

This section is applicable only to existing service stations forecourts and existing fuelling points at other facilities, for example, a bus depot. Discharges from the existing refuelling points are permitted subject to compliance with the approval conditions.

The wastewater from a refuelling point area may contain flammable substances, which pose a high risk to the general public, sewerage system assets and workers. Therefore, new or refurbished service stations or fuelling points are not permitted to be connected to the sewerage system.

5.3.11.1 Pre-treatment requirements

The following pre-treatment is required:

- screens or dry basket arrestor
- collection well (capacity 750 L) with a sloping bottom and a lid with apertures allowing for inspection
- high level indicator in collection well with an alarm
- non-emulsifying pump
- manual start switch located close to pit and pump
- oil water separator.

5.3.11.2 Operational procedures

The collection pit must be checked for the presence of fuel and the pump is not to be started if petrol is detected in the pit. In this case, the pit content must be pumped out and disposed of to an appropriate waste disposal facility and not discharged to the sewerage system.

If the existing lid is not accessible or does not have an inspection aperture, it needs either to be modified in order to comply with the above requirements or the discharges must be disconnected from the sewerage system. In such cases, wastewater collected in the pit will need to be tankered off-site. Council needs to be advised of such arrangements.

If existing premises with a refuelling point are refurbished, the discharge to the sewerage system from this area must be disconnected.

5.3.11.3 Prohibited substances

Petrol, diesel, solvents and other flammable substances, and used oil.

5.3.11.4 Bunding and roofing

A service station forecourt and other refuelling points must be in roofed and bunded/graded areas in order to minimise stormwater ingress to the sewerage system. Discharge from open forecourts/refuelling points is not permitted.

5.3.12 Shopping complex

Refer to relevant activities in chapter 4.

5.3.12.1 Multi-activities

In most situations, waste streams generated by different activities must not be combined prior to pre-treatment.

For example, in a shopping centre, wastewater from a laundry, hairdresser or a mechanical workshop must not be discharged into a grease arrestor due to potential interference with pre-treatment processes. Refer to s. 4.1.8 for further details.

5.3.12.2 Solid food waste digester/composter

Discharge from solid food waste processing units (digesters/composters, etc) to a council's sewerage system is a Concurrence Classification C discharge. Councils need to obtain concurrence to its approval from the department for individual application. Assumed concurrence is not available for such discharge (refer to s. 3.2.2.10 for further information).

5.3.13 Truck washing—truck platforms/flatbeds/garbage trucks

The wastewater may be generated by the following processes:

- washing of truck platforms/flatbeds—applicable only to trucks transporting dry goods that can be spilled on a truck platform during delivery (e.g. flour, rice, agricultural products)
- washing of garbage trucks (external only).

The discharges from the following processes are Classification C and not included:

- internal washing of trucks or tankers
- external washing of trucks and tankers transporting hazardous materials (fuel, other flammable substances, pesticides, etc.)
- washing of animal transportation trucks.

5.3.13.1 Wash bays

The trucks need to be washed in a covered (where practical) and bunded wash bay. In some cases, the wash bay area cannot be roofed due to the equipment size or other important considerations. Therefore, some liquid trade waste generators may submit an application to discharge first-flush stormwater to the sewerage system. All such applications need to be referred to the department for concurrence as assumed concurrence is not available for the discharge of stormwater from an open area to the sewerage system.

Maintenance and repair activities must not be carried out on a wash bay. Such work must be undertaken in a mechanical workshop.

The wash bays cannot be used for washing of trucks transporting animals, internal washing of tankers, etc. Council needs to consider security measures such as CCTV cameras to prevent unauthorised use of wash bays.

5.3.13.2 Pre-treatment requirements

Refer to s. 5.3.3.2.

5.3.13.3 Prohibited substances

Refer to s. 4.4.13.

5.3.13.4 Detergents

Only ‘quick-break’ detergents are to be used in the washing process.

5.3.13.5 Sampling

Samples need to be collected and tested every six months for suspended solids, total recoverable hydrocarbons and total oil and greases.

5.3.13.6 Use and disposal of solvents

Refer to ss. 4.4.13.

5.3.13.7 Housekeeping practices

Refer to s. 4.4.13 and to s. F11 of Appendix F.

6 Concurrence Classification C—concurrence mandatory

6 Concurrence Classification C—concurrence mandatory

6.1 What is Concurrence Classification C?

Concurrence Classification C comprises high-risk liquid trade waste discharges where concurrence must be sought by council for individual applications as indicated in s. 1.9.3. All such concurrence requests need to be forwarded to the Water Utilities Branch of the Department of Planning, Industry and Environment.

Concurrence Classification C discharges are:

- discharges listed in Table 9 and Table 11 that exceed the daily discharge volume limit of 20 kL day
- Concurrence Classification B discharges that exceed the maximum allowable daily discharge volume as indicated in Table 13
- those discharges not nominated in Classifications A, B or S.

Examples are shown in Table 17. This list is not exhaustive and new discharges may be added.

6.2 Approval process for Concurrence Classification C

6.2.1 Information the applicant needs to supply

Council must ensure that an applicant is aware of the information that needs to be provided with the application. A sample application form is provided in Appendix C. It sets out the minimum information requirements that should be provided by the applicant. Councils may use this form and adapt it to suit their administrative procedures.

Council must check that an applicant has provided the following information:

- signed application form (signature of the owner or a person who has the consent of the owner)
- drainage diagrams and plans of the site
- type of process/activity generating the liquid waste
- chemicals to be used—supply the safety data sheet, except for common chemicals
- quantity and rate of discharge to sewer
- details of the proposed pre-treatment system/equipment including:
    - concept design reports
    - bunding
    - instrumentation requirements—flowmeter, etc.
    - pH correction system and diversion system, if applicable
    - capacity of pre-treatment equipment
    - flow rate of pumping equipment
    - detention times of tanks/pits and ponds

- maintenance schedule for pre-treatment equipment, including all pits, tanks, pumps, etc.
- likely substances in liquid trade waste streams intended for discharge to the sewerage system
- details of all other liquid wastes generated within the premises but not proposed to be discharged, including the proposed arrangement for managing such waste. The proponent needs to provide evidence of appropriate disposal. If a transport contractor is engaged to truck away the waste, contractor name, a copy of the agreement with the contractor and details of the disposal facility/waste receiver. (Note, in addition, receipts/dockets or other evidence to support appropriate waste disposal must be obtained from the contractor and provided to council regularly. Refer to s. 7.6.3 for further information.)
- expected quality after pre-treatment, confirmed by one of the following:
    - sample analysis data of the proposed waste quality[21] as advised by equipment supplier or consultant
    - sample analysis data supplied from an existing premises with a similar process and/or pre-treatment equipment
- measures for prevention of stormwater ingress to the sewerage system
- chemical handling and storage facilities, where applicable:
    - storage location
    - bunded area (refer to s. F3.2.2 of Appendix F)
- arrangements for disposal of waste not permitted to be discharged to the sewerage system, (e.g. sludge, prohibited substances, waste streams prohibited to be discharged to the sewerage system) including:
    - proposed management options
    - details of the contractor and a copy of the EPA licence, if applicable
    - maintenance of a log book on-site with collection date, quantity and disposal location.

In addition, the applicant needs to provide:

- a copy of any relevant report, such as the consultant's report, concept/preliminary design report for pre-treatment system, an environmental impact assessment report, etc.
- plans and specifications of the work to be carried out
- details of the intended use of introduced microorganisms (biological additives), if applicable
- details of any recycling program or water reuse system, if applicable
- details of disposal arrangements for:
    - waste not permitted to be discharged to the sewerage system
    - sludge/solids
- any plans for future expansion (sewer capacity may not be available in the future for the intended discharge)
- a due diligence program and a contingency plan (see Appendix H for details).
- any additional details as requested by council.

21 Dischargers must ensure that analytical tests are carried out only by laboratories that hold National Association of Testing Authorities (NATA) registration for the class of test(s) or specific test(s) for substances specified in an application or by other laboratory acceptable to the department.

6.2.2 Assessing and approving the application

Council must examine all the relevant information from the applicant to determine whether its sewerage system can satisfactorily accept and treat such a discharge. Council also needs to assess risks associated with the liquid waste generated and/or stored at the premises, but not proposed to be discharged to sewerage system. It needs to make sure that the proposed arrangements for management of such waste are satisfactory.

Council needs to advice the applicant that approval of this application does not constitute a guarantee to approve any future variation to the application. Such future approval will depend on the available capacity of the sewerage system.

The following information needs to be assessed by council:

- adequacy of the pre-treatment proposal
- capacity of the sewerage system to accept the hydraulic load
- capacity of the sewage treatment works to accept both hydraulic and biological load
- impacts on the environment
- any impacts on the workers' health and safety
- any impacts on public health and/or amenity
- any impacts on the sewerage system assets
- any impacts during wet weather events (if so, the proposed action plan)
- potential for ingress of stormwater to sewerage system from this proposal
- impact on the EPA licence and any other EPA requirements
- impact on effluent and biosolids management
- management of liquid wastes not proposed to be discharged to council's sewerage system
- any other council's requirements or comments.

When seeking concurrence, council needs to forward its assessment, together with the liquid trade waste application and supporting information listed below:

- a draft copy of council's proposed conditions of approval, including:
  - any council-imposed restrictions, for example:
    - times of discharge
    - volume and flow rates
  - council's requirements in regard to record keeping, for example:
    - maintain a logbook
    - chart recording, etc.
  - sampling requirements by the applicant specifying:
    - location
    - nominated parameters
    - type and frequency
- council's audit samples (type and frequency)
- site inspection report, if applicable
- a draft copy of a liquid trade waste agreement, if applicable.

6.3 Wastewater from council assets maintenance work

Wastewater arising from some maintenance works carried out by council may be proposed to be discharged to the council's sewerage system. For example, proposals may include the wastewater generated by water or sewer mains lining using a 'cure in place pipe' (CIPP) process or wastewater arising from 'ice pigging' of water and sewer mains.

These proposals need to be assessed and, if council decides to approve the discharge of wastewater arising from these activities to its sewerage system, the application needs to be forwarded to the department for concurrence.

Table 17. Examples of Classification C discharges

Examples		
Abattoir	Feather washing	Paint manufacture
Acid pickling	Fellmonger	Paint stripping
Adhesive/latex manufacture	Felt manufacture	Pet food processing
Agriculture and veterinary drugs manufacture	Fertilisers manufacture	Pharmaceuticals manufacture
Aluminium processing	Fibreglass manufacture	Plants nursery (open areas)
Anodising	Filter cleaning	Plaster manufacture
Bitumen and tar	Flour mill	Poultry abattoir and processing
Bottle washing	Food processing*	Printing
Brewery*	Food waste processing unit (digester/composter) discharge	Rubber production
Cannery	Foundry	Saleyards
Cardboard, carton and paper manufacture	Fruit and vegetable processing	Seafood processing
Carpet manufacture	Galvanising	Slipway
Caustic degreasing	Glass manufacture	Smallgoods manufacture
Cereals manufacture	Glue manufacture	Soft drink manufacture
Chemicals manufacture	Grease trap waste disposal	Starch manufacture
Chemicals repackaging	Honey processing	Sugar refinery
Condiments/sauces manufacture*	Ice cream manufacture	Tanker washing
Confectionery manufacture*	Industrial waste treatment	Tannery
Contaminated site treatment facility	Ink manufacture	Textile manufacture
Cooling towers (industrial process)	Joinery and furniture	Timber processing
Cosmetics and perfumes manufacture	Laboratory agricultural or animal health research	Tip leachate
Cyanide hardening	Laboratory nuclear medicine and radioisotope	Transport depot/terminal
Dairy products processing*	Laboratory (workplace) including: • pharmaceutical • chemical manufacturing (pesticides etc.) • agriculture and animal research	Truck washing: • internal • truck transporting hazardous material (internal and external washing)

Examples		
Detergent/soaps mixing and/or manufacture	Leather finishing	Water treatment backwash
Drum washing	Liquid wastewater treatment facility	Waxes/polishes
Edible oils and fats manufacture	Metal finishing and processing	Wastewater arising from council asset maintenance: • CIPP relining • ice pigging • tree roots control
Egg processing	Mirror manufacture	Wine and spirit bottling
Electroplating	Oil recycling	Winery/distillery
–	Oil refinery	Wool processing

* Small scale operations may be considered under Concurrence Classification B, refer to Table 13.

6.4 Additional considerations

Acceptance of some large or industrial waste discharges may require modifications to the sewage treatment works or transportation system.

Augmentation/modification of council sewage treatment works or supply effluent (effluent reuse) from council sewage treatment works requires the approval of the Minister for Regional Water under s. 60 of Local Government Act. For more information on s. 60 approvals, refer to the department's website.

Photo of an industrial facility

7 Concurrence Classification S and other tankered waste

7 Concurrence Classification S and other tankered waste

This chapter describes the assessment and approval process for discharges of human waste from on-site management facilities (refer to Figure 7). It also describes procedure for obtaining authorisation to assume concurrence to council's approval for waste in Classification S. Furthermore, it includes information on the requirements for acceptance of such waste to the sewerage system, its management and recommended conditions of approval.

Information is also provided on management of liquid waste transported to the sewerage system from sewered and unsewered areas that are not included in Classification S.

7.1 What is Concurrence Classification S?

Concurrence Classification S comprises the following:

- human waste, tankered to council's facility
  - septic tank waste (effluent and septage)
  - ablution block waste (blackwater and greywater)
  - portable toilet waste
  - sludge from on-site aerated wastewater treatment systems for single households
  - waste from pit toilets (except composting toilets)
  - night soil
- waste from dump points—dump points receiving toilet waste and/or greywater from facilities (toilets and kitchen) on a bus or a recreation vehicle (RV), such as a caravan, motor home. Animal waste dump points are not included. It is a Classification C activity
- waste from ship-to-shore pump-out facilities—these facilities receive toilet waste and/or greywater from a navigable vessel.

Note on dump points and ship-to-shore pump-out facilities

These guidelines provide guidance to councils on regulation of waste discharges from dump points and ship-to-shore pump-out facility to council's sewerage system.

Owners/operators of the above facilities need to ensure that the waste discharged to these facilities comply with the approval requirements.

These guidelines do not provide any guidance to owners/operators of such facilities on how to charge their customers.

7.1.1 Waste not included in Concurrence S Classification

Wastes not included in Concurrence S Classification are:

- the disposal of composting toilet waste (not permitted to discharge to a sewerage system)
- any waste not listed in s. 7.1.

All other tankered liquid waste not included in Concurrence Classification S, if discharged to council's sewerage system, needs to be managed in accordance with the concurrence classification relevant to the activity (see s. 7.6).

For example, if a cheese factory is located in an unsewered area and its liquid waste is tankered to the sewage treatment works, then such waste may need to be regulated as a Concurrence Classification C discharge.

requirements and concurrence classification, even for the same type of business activity, can vary depending on a range of factors, such as the extent of on-site pre-treatment and/or the type of waste proposed to be discharged, etc. It is recommended that council contact the department for guidance.

Also, refer to s. 7.6 for the management of tankered waste not included in Classification S.

7.2 Description of human waste

7.2.1 Septic tank waste

This may include septic tank effluent and/or septage. The waste is anaerobic in nature and the presence of sulphides can be expected.

7.2.1.1 Septic tank effluent

Septic tank effluent is usually of similar strength to domestic waste but has a higher concentration of sulphides. Septic tank effluent is often managed by on-site systems such as soil absorption trenches and evapo-transpiration beds or trenches. Where on-site disposal systems are not provided, the septic tank effluent must be pumped out on a regular basis. The effluent may be treated at the sewage treatment works.

7.2.1.2 Septage

Septage is the material pumped out during desludging of a septic tank and consists of the partly decomposed sludge, scum and liquid. Septage has a far greater concentration of organic material, solids and grease than septic tank effluent or raw sewage.

7.2.2 Other human waste

7.2.2.1 Ablution waste

This is wastewater arising from washing of hands and body.

Ablution blocks usually have toilets, hence the ablution block waste may include both black water and wastewater arising from washing of hands and body.

7.2.2.2 Blackwater

This is wastewater containing human excrement (i.e. faeces, urine).

7.2.2.3 Greywater

This is wastewater from showers, bath, spa, hand basins, laundry tub, washing machine, dishwasher and kitchen sink. It does not include wastewater from toilets, urinals or bidets.

7.2.2.4 Portable toilet waste

This is waste from portable toilets, used on construction sites and at outdoor gatherings, such as music festivals, shows, etc., and in caravans and motor homes. If chemicals are used for deodourizing the waste, it is referred to as chemical toilet waste.

7.2.2.5 Aerated wastewater treatment systems for single households

A variety of packaged on-site sewage management plants that produce high quality effluent are available in the market. In general, the treated effluent is suitable for land disposal. If sludge is proposed to be discharged at a sewage treatment works, such waste needs to be disposed to a sludge lagoon, where available.

7.2.2.6 Waste from pit toilets

There are pit toilets installed at recreation reserve sites, roadsides, national parks where there are no provisions for water service. These include pit latrines, ventilated improved pit latrines (VIP latrines, also known as long-drop toilets), etc.

The waste is of high strength, and odour control and/or insect control chemicals may be used. If the pumped-out waste from such toilets is proposed to be discharged to the sewage treatment works, these applications need to be forwarded to the department for concurrence (assumed concurrence is not available for such waste).

7.2.2.7 Night soil

This is human excrement collected from buckets, cesspools, and privies (assumed concurrence is not available).

7.3 Concurrence Classification S—requirements for assumed concurrence

Discharge of Classification S waste to the sewerage system requires concurrence for individual applications, unless council has been granted assumed concurrence under s. 90(1) of the Local Government Act and cl. 28 of the associated Regulation.

All requests seeking assumed concurrence need to be forwarded to the department.

7.3.1 Assumed concurrence

Council may be granted assumed concurrence for some Classification S discharges, subject to volume restrictions and other conditions. The process for seeking assumed concurrence for Classification S discharges is similar to the process listed in s. 5.1.2. An assumed concurrence notice will list sewage treatment works that have capacity and ability to treat this waste.

In addition to those requirements listed in s. 5.1.2, when seeking assumed concurrence council needs to demonstrate:

- the sewage treatment works has an appropriate infrastructure to accept the waste (e.g. appropriate receival facilities, screens, etc.)
- a waste tracking system acceptable to the department is in place, preferably electronic.

Council may be audited by the department to ensure that they are complying with the requirements of assumed concurrence (refer to Figure 2).

The assumed concurrence is not available for the following Concurrence Classification S discharges and individual applications need to be forwarded to the department for concurrence prior to granting approval:

- where the discharge of waste exceeds the maximum daily volume indicated in the Concurrence Notice
- waste from pit toilets, and/or nightsoil.

7.4 Approval process for Concurrence Classification S

7.4.1 Who should apply?

7.4.1.1 Human waste tankered to council facility

An applicant can be either a contractor who transports liquid trade waste, or council itself.

In general, the contractor who transports waste to a council's sewerage system is the applicant. The owner of a property where septic waste or ablution block waste is generated is generally not required to hold a liquid trade waste approval. However, such premises may need to have an on-site sewage management approval under s. 68, Part C6 of the Local Government Act.

In circumstances where human waste is generated during special large events (such as shows, festivals, etc.), organisers of such events are likely to apply to council to obtain a liquid trade waste approval and organise the transportation of liquid waste to the sewage treatment works.

Some councils manage the septic waste collection service by engaging contractors. In such situations, council is the applicant. Once council has obtained concurrence for discharging septic waste to the sewerage system, it may engage multiple contractors to transport such waste, provided that:

- the total daily discharge volume is within the approval
- each contractor complies with the approval conditions.

7.4.1.2 Dump points

An owner of the premises or the operator (with the owner's consent) who conducts a business at the premises where the dump point is located (for example a caravan park) needs to apply. In the case of a dump point located in a public place, council itself is the applicant.

7.4.1.3 Ship-to-shore pump-out facilities

Refer to s. 7.5.3.

7.4.2 Information the applicant needs to supply

The proponent must submit a liquid trade waste application to council providing all necessary information.

Sample application forms are provided in Appendix C (Forms C1 and C6). They set out the minimum information requirements that must be supplied by an applicant. Each council may use this form, adapting it to suit its administrative procedures if necessary.

The following information needs to be provided by the applicant to facilitate the assessment process:

- name, address and telephone number of business/industry responsible and the contact person
- type of waste
- other waste collected by the applicant, but not proposed to be discharged to the sewerage system, including evidence to support appropriate disposal (details of disposal location, log books, receipts etc.)
- volume of waste proposed to be discharged (daily, weekly, one-off, etc.)—applies only to tankered waste
- details of any odour-inhibiting or other chemicals used, including dosage rates
- proposed method of discharge including plans and drawings, if applicable
- proposed method of flow measurement where required
- security arrangement at the proposed disposal site, if applicable
- measures to prevent stormwater ingress to the sewerage system (for the proposed dump point)
- any additional information requested by council.

7.4.3 Assessing and approving the application

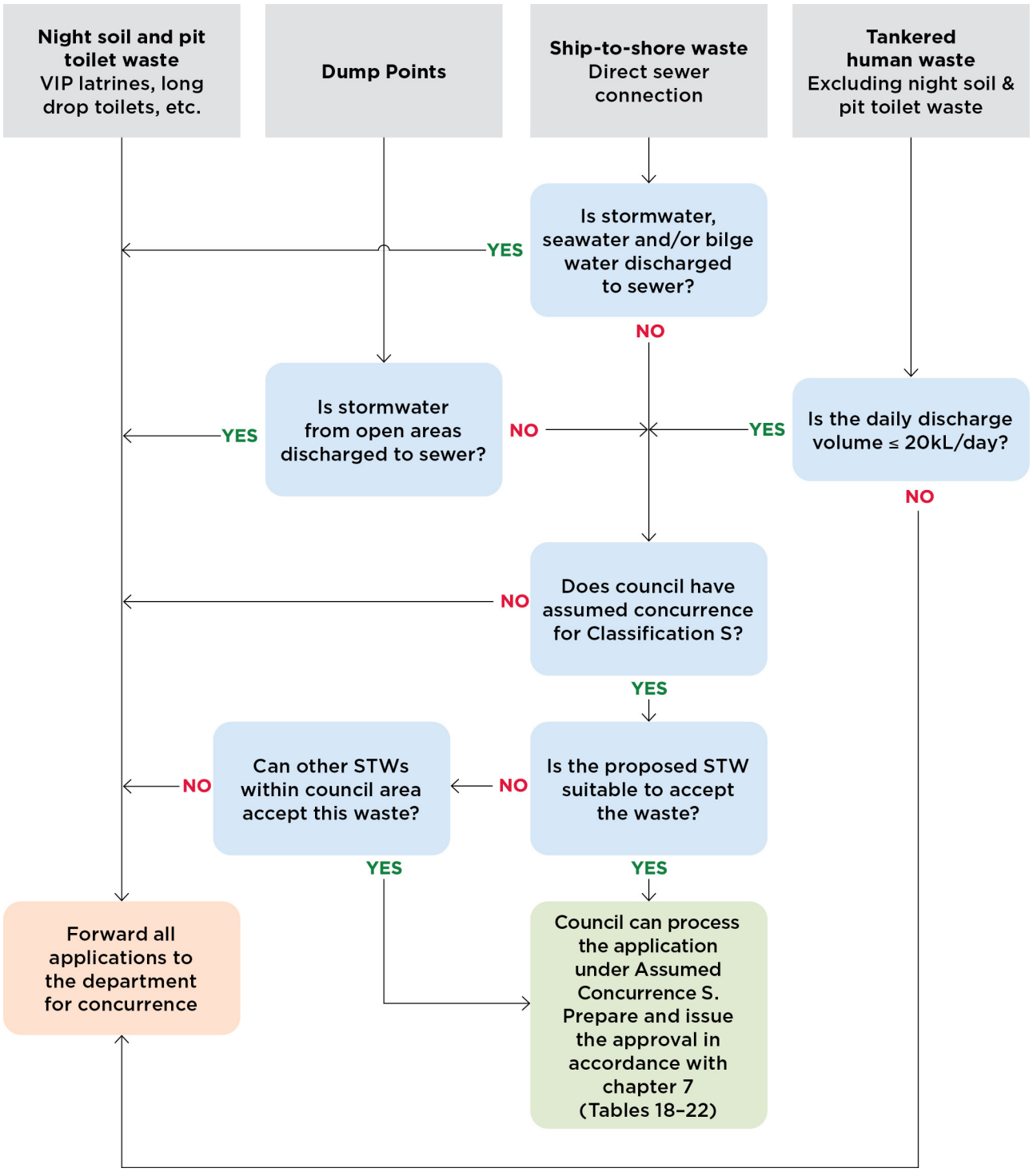
The following issues need to be addressed:

- the capacity and capability of the sewage treatment system to accept both the hydraulic and biological loads
- any impacts on worker health and safety
- any impacts on public health and safety or amenity
- assessment of odour control problems
- any impacts on the sewerage system assets
- impacts on the environment
- impact on any EPA licence (i.e. sewage treatment works) and other EPA requirements
- measures taken to ensure the integrity of the waste
- suitability and security measures of disposal location.

Council's assessment of the proposal and proposed conditions of approval must be referred to the department when seeking concurrence to its approval, unless council has been granted assumed concurrence for approval of this type of waste.

Note:
If structural changes or additions are required at the sewage treatment works (including construction of a septic waste receival facility), these may require an approval under s. 60 of the Local Government Act (refer to s. 6.4 of these guidelines).

Figure 7. Approval of Classification S applications



7.5 Management of waste

7.5.1 Transported waste from on-site sewage management facilities

The preferred discharge points for tankered waste are described in the following sections.

7.5.1.1 Septic tank waste

7.5.1.1.1 Septic waste receival facility

A septic wastes receival facility enables better control and monitoring of waste. The waste can then be directed to an appropriate part of the treatment works at a controlled rate. For example, effluent can be pumped to the head of the works and sludge to the sludge lagoon. Advantages of using a receival facility include:

- odours and the risk of spill can be minimised by using a hose connecting tankers to the receival facility. The effluent should be piped to the bottom of the tank in a manner that reduces the release of offensive gases and odours
- aeration and odour control measures can be implemented, if necessary, prior to discharge
- the effluent can be pumped to the treatment works over a longer period of time, providing increased dilution with the incoming sewage
- containment of spills, etc.

Refer to Figure 8 for an example of a septic waste receival facility in regional NSW.

7.5.1.1.2 Sludge lagoon

In general, it is recommended that septage be discharged to a sludge lagoon.

If a receival facility is not available, it is preferable to discharge septic waste to a sludge lagoon, where practical. An access road suitable for tankers must be available and screening needs to be provided at the discharge point. The waste should be discharged below the water level of the lagoon. Septic waste must not be discharged into a lagoon that is to be emptied within next six months in order to allow sufficient time for pathogen reduction and sludge stabilization in the lagoon.

7.5.1.1.3 Inlet works

If the previously detailed options are not available, discharge at the inlet works can be considered, if appropriate.

7.5.1.1.4 Other options

Discharge of septic waste to a pump station is generally not recommended as it is difficult to control the discharge. Such discharges may present a greater risk of odour generation or the potential for unauthorised discharge of waste (for example grease trap pump-outs). However, if discharge at the sewage treatment works is not feasible, discharge of only the septic effluent at an immediate upstream pumping station that can provide a minimum rate of dilution of 1:5 (septic/fresh sewage) can be considered. This would normally entail discharge during peak flows.

However, the discharge of septage into manholes or sewage pumping stations is not permitted, regardless of dilution or chemical pre-treatment, given the impact that this material may have on the sewerage system.

Septage may only be accepted at a designated point at the sewage treatment works, generally to a sludge lagoon.

7.5.1.1.5 Potential problems

Potential problems associated with septic waste discharge include odours at the discharge point, operational problems of primary sedimentation tanks, and sludge bulking.

- Odours at the discharge point can be overcome by:
    - dosing the road tankers by the discharger with appropriate odour control products, with the consent of council. Hydrogen peroxide and sodium percarbonate are the commonly used chemicals for odour suppression. The supplier's recommendation must be followed for appropriate dosage rate, contact times and application procedures. Adequate mixing must be provided before discharge to the sewage treatment works. It must be ensured that after addition of chemicals, the pH of waste is within the range of 6.5–9.5
    - aerating the waste either in a septic waste collection tanker before discharge or at the receival facility, if any.
- Problems with the operation of the primary sedimentation tanks (septic effluent may cause settled sludge to float to the surface of these tanks) can be minimised by discharging the effluent to the head of the treatment works during the peak flow period, or preferably by providing a receival facility at the works.
- Sludge bulking in extended aeration treatment units is associated with the presence of sulphides and can be minimised by discharging the waste only during aeration.

7.5.1.1.6 Recommended conditions of approval

The recommended draft conditions of approval for septic tank effluent/septage discharges are listed in Table 18.

Table 18. Approval conditions for septic tank waste

Activity	Conditions (refer to Appendix E)
Combined septic effluent and septage	1, 2, 4, 5, 7, 8, 91–93, 97, 99, 94 (optional)
Septic tank effluent only	1, 2, 4, 5, 7, 8, 91–93, 97, 99, 94 (optional)
Septage only	1, 2, 4, 5, 7, 8, 90, 92, 93, 97, 99, 94 (optional)

Figure 8. Tanker unloading effluent through flexible connection and KAM-LOK coupling

7.5.1.2 Ablution block waste

Ablutions blocks are commonly used on large construction sites, mine sites and during temporary events such as music festivals. Generally, wastewater is collected in a holding tank. The tank content is pumped out as required, transported to and discharged at a council's sewage treatment works in accordance with council's approval.

Before installing and using a sewage holding tank, an approval for installation, operation and maintenance may need to be obtained from council.

Large volumes of wastewater generated from food preparation activities at festivals, if not treated on-site with appropriate pre-treatment equipment, must not be discharged to the holding tank that holds blackwater and ablution water. Wastewater arising from food preparation activities may need to be either removed from site for off-site management or pre-treated on-site (such as by an appropriately sized grease arrestor) prior to discharge to the holding tank. If the waste is removed from site, council needs to be advised of the disposal location.

7.5.1.2.1 Recommended conditions of approval

The recommended draft conditions of approval for ablution block waste discharges are listed in Table 19.

Table 19. Approval conditions for ablution block waste

Activity	Conditions (refer to Appendix E)
Ablution block waste	1, 2, 4, 5, 7, 8, 91–93, 97, 99, 94 (optional)
If food prepared on-site	Site-specific conditions apply

7.5.1.3 Sludge from on-site aerated wastewater treatment systems from a single household

If sludge from aerated wastewater treatment systems from a single household is tankered to sewage treatment works, it is recommended to be discharged to a sludge lagoon only.

7.5.1.4 Decommissioning of on-site sewage management facilities

When new tenements are connected to a sewerage system, the on-site sewage management systems need to be decommissioned in accordance with the NSW Health Advisory Note 3, 2006. Council needs to issue a directive to the householder in regard to disposal of septic tank contents. Council approval is required if redundant tanks are to be reused.

In commercial premises, on-site pre-treatment facilities, such as a grease arrestor previously connected to the septic tank/holding tank, must be directly connected to the council's sewerage system. The liquid waste must not pass through the decommissioned septic tank and/or effluent collection tank without council's prior approval (and the department's concurrence).

7.5.1.5 Portable toilet waste

The use of portable toilets is common at building sites and in marine craft and passenger road coaches. The toilet waste containers may be replaced individually or pumped out by a tanker and emptied at another location.

When chemicals are used in portable toilets to deodorise the waste, it is known as chemical toilet waste. When large volumes of this waste need to be disposed of during special public events, such as festivals, shows, etc., it may present a significant problem to the sewage treatment works. Local organisers should advise council of such proposed events well in advance in order to allow council sufficient time to assess the proposal.

The application and council assessment must be referred to the Water Utilities Branch of the Department of Planning, Industry and Environment for concurrence. In some situations, concurrence can be provided to council enabling them to regulate such waste on an annual basis, so that council does not need to seek concurrence on each occasion.

Where formaldehyde/glutaraldehyde-based compounds are used in chemical toilets, the concentration of formaldehyde in the sewage entering the sewage treatment works should not exceed 10 mg/L. Such products at high concentration levels may adversely affect the sewage treatment process and the environment. It is recommended that councils discourage the use of such products and also test raw sewage at the sewage treatment works for the above substances during major events that generate high volumes of chemical toilet wastes.

7.5.1.5.1 Recommended conditions of approval

The recommended draft conditions of approval for portable toilet waste discharges are listed in Table 20.

Table 20. Approval conditions for portable toilet waste

Activity	Conditions (refer to Appendix E)
Portable toilet waste	1, 2, 4, 5, 7, 8, 91–93, 96, 97, 99, 94 (optional)

7.5.1.6 Due diligence—transported human waste

7.5.1.6.1 Integrity of waste

Grease trap waste is not permitted to be discharged into the sewerage system. Septic waste or ablution block waste is not permitted to be mixed with any other commercial/industrial liquid waste or sludge.

The applicant must provide a statement/declaration stating that pumped-out waste will not be mixed with grease trap pump-out waste or any other waste. It is preferable that a dedicated tanker be used for transportation of Classification S waste. If this is impractical for a small operation, the road tanker is required to be washed after pumping out grease trap waste.

To ensure the integrity of the waste, it is preferable that the discharge of waste be made in the presence of a council employee.

7.5.1.6.2 Waste transporters and tracking

Councils must have appropriate procedures in place to manage liquid waste transporters operating in their area as there is no requirement for transporters of septic waste, grease trap waste or food waste to hold NSW EPA licence when transporting such waste within NSW.

Councils must have either an electronic waste tracking system (preferred) or a manual docket system in order to monitor the tankered waste received at their sewage treatment works.

In addition, a log book must be kept at each sewage treatment works that receives tankered waste, and be filled in on each occasion of waste discharge as part of council's due diligence program.

The log book may include:

- the day, date and time of discharge
- type of waste (e.g. septic, portable toilet, etc.)
- volume discharged
- origin of the pump-out waste
- contractor's name (and vehicle number if appropriate)
- whether odour problems occurred and contingency measures taken
- pH reading, if chemicals are used to control odour problems.

The log book is to be made available to a departmental officer on request.

In addition, transporters are required to provide council with collection logs that include information on pump-out waste other than Classification S (for example waste from grease traps) and evidence of appropriate disposal (receipts from waste receival facilities, etc.).

The following information must be included in the log books for liquid waste disposed at facilities other than the sewerage system:

- the date and time
- type of waste and volume disposed off
- details of the disposal facility/waste receiver
- contractor name
- receipts/dockets or other evidence to support appropriate waste disposal.

The log book must be made available to council's officer and a departmental officer on request.

7.5.2 Toilet waste dump point

The toilet waste dump points in regional NSW are owned and operated either by councils or private service providers (such as those within a caravan park, bus depot, etc.). The owner of the dump point must obtain liquid trade waste approval from council to operate a dump point.

Toilet waste and greywater from recreational vehicles (RVs) are permitted to be discharged to a dump point. Most new recreational vehicles are built with showers, toilets, washing machines and even dishwashers, resulting in generation of high volumes of greywater.

It is the dump point owner's/operator's responsibility to ensure the integrity of waste disposed at such facilities. All reasonable steps need to be taken by the operator to prevent discharge of unauthorised waste to council's sewerage system. Some recommended measures include installing appropriate signage and providing clear guidance on how to use the facility and what should not be discharged. For example, such a sign needs to indicate that the dump point is suitable for the disposal of domestic type waste from recreational vehicles only and the discharge of any other transported waste (eg. animal waste, waste from mobile business activities) is not permitted.

Photo of a human waste dump point

7.5.2.1 Location of a dump point

A dump point is a potential access point to the council's sewerage system. Unauthorised waste entering the sewerage system may severely compromise the performance of the sewage treatment works. It is important to select a secure location for installation of a dump point by council.

It is recommended that council provides constant surveillance (CCTV) for such facilities, where practical, and install a sign indicating that monitoring is carried out. Open and visible areas would reduce the potential of illegal dumping or vandalism. For security reasons, many water utilities prefer dump points to be located only within caravan parks.

The dump point must be located at a point on the sewer network where a high dilution is available. Such a facility must not be located in a catchment of a small sewage treatment works, if practical, in order to minimise any adverse impact on treatment processes due to any potentially harmful chemicals present in wastewater.

If a dump point is to be located in an unsewered area, then it must be connected to a holding tank, which can be pumped-out regularly.

When permitting a waste dump point, consideration needs to be given to the following:

- location—accessibility, lighting, security, dilution availability
- impact on the sewage treatment works
- measures to protect the integrity of the site (e.g. appropriate signage, CCTV monitoring)
- measures to exclude rainwater (e.g. bunding)
- provisions to accept both a hose connection from a vehicle and a manual cassette type cleaning situation
- provisions for freshwater for rinsing out portable toilets and cleaning up any spillages. A backflow prevention device must be provided on the water supply main.

7.5.2.2 Recommended conditions of approval

The recommended draft conditions of approval for portable toilet waste discharges are listed in Table 21.

Table 21. Approval conditions for a dump point

Activity	Conditions (refer to Appendix E)
Dump point	1 (a–d), 5, 8, 53, 95, 96, 98

7.5.3 Ship-to-shore pump-out waste

7.5.3.1 Approval Process

Ship-to-shore pump-out facilities in regional NSW are owned and operated either by a private service provider or by a public authority (including council itself). Discharge of waste from a ship-to-shore pump-out facility to council's sewerage system requires liquid trade waste approval from council (and concurrence from the department).

As indicated in s. 7.1, the liquid trade waste approval is issued to the pump-out facility owner/operator and not to individual or commercial boat owners. It is the pump-out facility owner's/operator's responsibility to ensure the integrity of waste discharged to the council's sewerage system.

The owner/operator of the facility needs to take all necessary steps to prevent discharge of unauthorised waste. Some precautionary measures may include providing authorised access, displaying signage, providing clear guidance on how to use the facility and what should not be discharged.

If the ship-to-shore pump-out facility is located within a boat marina, liquid waste generated by a variety of commercial business activities (other than the pump-out waste) within the Marina complex needs to be managed in accordance with the concurrence classification relevant to a discharge. For example, liquid waste from a restaurant is a Concurrence Classification A discharge, while the pump-out facility waste is a Concurrence Classification S discharge.

7.5.3.2 Approval holder

Ship-to shore pump-out facilities may be either connected directly to the sewerage system or the waste from the facility may be transported by a road tanker to the sewage treatment works. Some pump-out facilities are located on a pontoon from where the wastewater may be either pumped to the sewerage system through a holding tank or transported by a road tanker to the sewage treatment works.

Approval holders, in general, for the above arrangements are as follows:

- If the waste from the pump-out facility or a holding tank is discharged directly to the sewerage system, the approval holder is the owner or the operator of the facility.
- If the collected waste is transported by a tanker to a sewage treatment works, the approval holder is a contractor who transports the waste. However, council needs to ensure that the owner/operator of a pump-out facility has taken all necessary steps to ensure the integrity of waste discharged to the facility.
- In the case of a pump-out-facility owned by council, council itself is the approval holder and may engage contractors to transport waste to the sewage treatment works.

All fees and charges indicated in these guidelines, if any, are applicable to the approval holder only.

Note:
Any pump out facility located on a pontoon, including wastewater holding tanks (if applicable), may need an on-site sewage management approval under s. 68, Part C6 of the *Local Government Act, 1993.*

7.5.3.3 Types of liquid waste permitted to be discharged to the pump-out facility

Liquid wastes generated on-board may include:

- toilet waste
- greywater (wastewater from shower, spa/swimming pool, kitchen (galley waste), washing machine and general cleaning activities).

Operators of ship-to-shore pump-out facilities must ensure the integrity of liquid waste discharged through their facility to council's sewerage system.

It is recommended that appropriate signage be provided indicating:

- types of liquid waste permitted to be discharged
- waste prohibited to be discharged
- instructions on how to use the facility
- security arrangements (i.e. access keys), etc.

7.5.3.4 Discharge of waste from 'floating restaurants'

There are cruise vessels with restaurants ('floating restaurants') operating in waterways in some regional NSW areas. As indicated in the previous section, such businesses are not liquid trade waste dischargers because the liquid waste is not directly discharged to council's sewerage system. However, if the waste is discharged to a ship-to-shore pump-out facility, the facility owner/operator must have appropriate procedures in place to manage such discharges.

Liquid waste generated by floating restaurants; include:

- greywater with a high proportion of greasy/oily waste generated by food preparation activities
- toilet waste.

The floating restaurant needs to have separate arrangements for the collection of galley waste and toilet waste. The galley waste must be treated in an on-board greywater treatment system compliant with Australian Standard AS 4995–2009 Greywater Treatment Systems for Vessels Operated on Inland Water.

Some old boats may not have separate holding tanks for galley waste and toilet waste. If feasible, the galley waste needs to be pre-treated by an on-board grease arrestor prior to being combined in a holding tank with toilet waste.

Council needs to consider the effect of untreated oily/greasy waste discharged from a pump-out facility on its sewerage system, including the additional maintenance cost of sewer infrastructure. Council may apply special charges to the owner of the pump-out facility accepting untreated galley waste from floating restaurants.

7.5.3.5 Wastes prohibited to be discharged to the pump-out facility

Pump-out operators must ensure that the wastes detailed in the following sections are not discharged to the sewerage system.

7.5.3.5.1 Seawater (or tidal water)

The ingress of seawater to the sewerage system has the potential to adversely impact on sewage treatment processes. Seawater may also result in corrosion of sewer infrastructure.

Sewage treatment works do not have the capability to remove salt. Accordingly, saline waste may have an impact on the effluent reuse options.

7.5.3.5.2 Bilge water

Bilge water is prohibited from discharge to the sewerage system as such water can be contaminated with diesel, oil, salt, etc.

7.5.3.5.3 Wastewater from the refuelling area

Refer to s. 5.3.11.

7.5.3.5.4 Other prohibited substances

Refer to prohibited substances listed in Table 7 in chapter 3.

7.5.3.6 Other issues

7.5.3.6.1 Odour

Odour control measures may be required if odour problems are experienced at the discharge point.

7.5.3.6.2 Flow measurement

A flow measurement system may be required to determine the volume for charging and monitoring purposes, where practical.

7.5.3.6.3 Portable toilets on boats

Pan wastes may be carried ashore for discharging to sewer via a flushed 'slop hopper', if such on-shore facilities are provided.

The provider of 'slop hopper' needs to ensure that a wash-down hose with backflow prevention is available for rinsing out portable toilets and cleaning up any spillages.

Photo of a boat marina

7.5.3.7 Information the applicant needs to supply

Information to be included with the application is as follows:

- owner/operator details
- types of waste received:
  - toilet waste
  - pan waste
  - greywater
- types of vessel discharging to the facility
- daily quantities of wastewater and the rate of discharge
- times and peak periods of discharge
- proposed flow measurement
- details of how prohibited liquid waste is managed
- the use of odour-inhibiting or other chemicals and their dosage rates, if applicable
- a copy of any relevant reports or documents (e.g. environmental impact statement, consultant's report, etc.)
- a schematic layout of the proposed system and/or proposed pre-treatment equipment, if appropriate
- any other relevant information.

7.5.3.8 Assessing and approving an application

Council needs to check all relevant information listed in s. 7.5.3.7, and that the application is signed by the owner or a person who has the consent of the owner of the premises.

There are several factors for council to consider as part of the assessment process. A critical factor is whether the sewerage system is capable of accepting hydraulic and biological loadings without detrimental effect on its performance. It is also important to consider whether appropriate receival facilities and sufficient dilution in the receiving sewer are available.

If council intends to approve the application, it needs to prepare the draft approval with all relevant conditions and forward it to the department for concurrence (unless it has assumed concurrence).

7.5.3.8.1 Recommended conditions of approval

The recommended draft conditions of approval for a ship-to-shore pump out facility are listed in Table 22.

Table 22. Approval conditions for ship-to-shore pump-out facility

Activity	Suggested conditions (refer to Appendix E)
Ship-to-shore pump-out	1, 2, 4–8, 53, 62, 71, 96, 98, 99a (if applicable)
Specific conditions for pan waste (via slop hopper)	95

7.6 Management of other transported liquid waste (commercial or industrial)

Liquid waste generated by industrial and commercial businesses in unsewered areas is often managed by on-site treatment systems and by-products may be either disposed within the premises or transported away for further management at appropriate treatment facilities. The legislation applicable for on-site treatment and disposal may include s. 68, Part C6 of the *Local Government Act 1993* and the *Protection of the Environment Operations Act 1997*.

A septic tank is an on-site waste treatment system extensively used in regional NSW. In situations, where there is not enough land area to disperse the treated septic effluent, pump-out of the effluent at a regular interval would be necessary. Septic tank effluent and septage (septic tank sludge) are often transported to council's sewage treatment works for further management.

Appropriate approval conditions must be included in the on-site approval to operate a septic tank in order to ensure that the septic waste received at the sewage treatment works will not have any adverse impact on the performance of the works due to pollutants present in commercial or industrial waste (such as oil and grease, heavy metals, petroleum hydrocarbon, etc.). It is, therefore, imperative that the relevant sections within councils that deal with liquid trade waste regulation and on-site waste management approvals liaise closely.

The following sections describe recommended pre-treatment and conditions of approval that council may need to include in an on-site approval (a liquid trade waste approval may not be required in such cases).

7.6.1 Commercial premises

7.6.1.1 Commercial kitchen

The waste from a commercial kitchen located in an unsewered area needs to be pretreated in the same manner as kitchen waste in a sewered area. Refer to chapter 4 of these guidelines for pre-treatment requirements and other important considerations. This will ensure that the waste pumped-out from the septic tank in such premises can be transported to and treated at council's sewage treatment works. The capacity of a grease arrestor for an individual premises can be determined as indicated in s. F5.2 of Appendix F.

When providing an on-site approval under s. 68 Part C6 of the Local Government Act, council may need to specify pre-treatment requirements (such as the appropriate size of the pre-treatment equipment) and impose appropriate approval conditions, including the frequency of pump-out. To assist council's staff, relevant conditions for a commercial kitchen operation in an unsewered area are listed in the following sections.

7.6.1.1.1 Recommended conditions

The recommended conditions to be included in an on-site approval if a commercial kitchen is connected to a septic tank are listed in Table 23.

Table 23. Approval conditions for a commercial kitchen, if connected to a septic tank

Activity	Relevant conditions (refer to Appendix E)
Commercial kitchen with oily greasy waste	4, 5, 8, 10, 11, 13–18

Note:
References to 'liquid trade waste' and 'sewerage system' in the conditions listed in Table 23 needs to be removed because the discharge of waste from a commercial kitchen to an on-site treatment facility is not a liquid trade waste discharge.

7.6.1.2 Other commercial activities

Liquid waste from other commercial activities, (for example, a mechanical workshop) must not be discharged into a septic tank without prior approval from council (and consent from the Water Utilities Branch of the Department of Planning, Industry and Environment) if the septic waste is planned to be discharged at a council's sewage treatment works.

Such waste may need to be kept in a separate holding tank. Care should be taken not to mix this waste with septic waste when pumping out on-site facilities. Liquid waste from commercial activities other than commercial kitchens may need to be transported to a licensed waste treatment facility for further treatment.

7.6.2 Industrial activities

Wastewater generated from industrial activities must be collected in a holding tank and transported for further management, if adequate on-site treatment and management options are not available. If such waste is proposed to be discharged into an on-site septic tank, appropriate pre-treatment needs to be provided prior to discharge. Care should be taken not to mix untreated waste with septic waste when pumping out.

If the wastewater collected in the holding tank is proposed to be discharged at a sewage treatment works (directly by being tankered to the sewage treatment works, or indirectly by discharging via the on-site septic tank), then such discharge will be considered as a Concurrence Classification C discharge. A liquid trade waste approval needs to be obtained by the person who generates such waste. The waste transporter who tankers such waste to council's sewage treatment works also needs to have a liquid trade waste approval to discharge this waste. Such an approval must be obtained irrespective of any other approval held by the transporter, such as a Classification S waste discharge approval.

Sometimes in sewered areas, businesses may propose not to use council's sewerage system to dispose of liquid waste. They may propose to have their own waste management arrangement, such as having the waste tankered to an appropriate liquid waste treatment facility. Such proposals need to be assessed carefully by council at the DA stage.

Council must be satisfied with the proposed arrangement for off-site management. Council also needs to undertake regular audits to ensure proper disposal of waste in order to prevent unauthorized waste discharge at council's sewage treatment works, directly (for example, mixed with domestic sewage) or indirectly (for example, mixed with authorised transported waste such as septic waste).

The audits may include (but are not limited to) the checking of:

- frequency of waste pump-out
- details of the transporter and the receival facility
- records of the transported waste such as the date, volume, vehicle number
- copies of receipts/dockets issued to transporter by the waste receival facility.

Note:
Certain types of wastes are prohibited and will not be accepted to sewage treatment works (refer to Table 7 in chapter 3 for prohibited matter). In addition to those listed, certain waste streams produced during an industrial activity will not be accepted to council's sewerage system (for example, brine, whey, strong acidic/alkaline solutions, etc.). Refer to chapters 5 and 6 for information applicable to discharges from various activities.

7.6.3 Transporting liquid waste to destinations other than council's sewerage system

Liquid waste transported to destinations other than council's sewerage system are not regulated as liquid trade waste.

However, council must have appropriate policies and procedures in place to manage such transporters in order to prevent unauthorised waste discharge directly or indirectly into the council's sewerage system or the environment.

Council must maintain a register of all liquid waste transporters, including the following information:

- contact details,
- type of waste (including the source) and quantities of waste transported daily/monthly/annually,
- disposal locations (with supporting evidence, such as copies or receipts from waste receival facility, etc.).

8 Non-residential sewerage and liquid trade waste fees and charges

8 Non-residential sewerage and liquid trade waste fees and charges

This chapter provides information on and the methodology for calculating non-residential sewerage and liquid trade waste fees and charges.

Councils need to implement best-practice pricing for non-residential sewerage and liquid trade waste in order to ensure that liquid trade waste dischargers pay a fair share of the cost of providing sewerage services.

Appropriate pricing is essential to provide relevant pricing signals to non-residential and liquid trade waste customers. It also encourages customers to use water efficiently and to minimise the use of associated sewerage infrastructure.

8.1 Responsibility for payment of fees and charges

Property (land) owners are responsible for the payment of fees and charges for water supply, sewerage and liquid trade waste services provided by council. This includes property owners of marinas, caravan parks, etc.

Where another party (lessee) leases premises, any reimbursement of the lessor (property owner) for such fees and charges is a matter for the lessor and the lessee.

In relation to tankered human waste, waste transporters who collect and discharge the waste at the sewage treatment works are generally responsible for the payment.

Liquid trade waste dischargers (except for tankered waste dischargers) pay both the non-residential sewerage charges and liquid trade waste fees and charges. A waste transporter who tankers human waste to a sewage treatment works may pay only the liquid trade waste fees and charges, as waste is not transported through council's sewerage infrastructure.

8.2 Non-residential sewerage pricing

Non-residential sewerage bills[22] should be based on a cost-reflective, two-part tariff with an annual access charge and a uniform sewer usage charge per kilolitre.

The volume discharged to the sewerage system can be either measured or estimated using the customer's total water consumption multiplied by a sewer discharge factor.

22 Detailed guidance for calculation of non-residential sewerage prices are provided in the *Water Supply, Sewerage and Trade Waste Pricing Guidelines, 2002*, Department of Land and Water Conservation.

The sewerage bill for a non-residential customer should be calculated as follows:

Equation 1. Calculation of sewerage bill

$B = SDF \times (AC + C \times UC)$

Where:

B = Annual non-residential sewerage bill ($)

C = Customer's annual water consumption (kL)

AC = Annual non-residential sewerage access charge ($) (refer to s. 8.2.1)

SDF = Sewer discharge factor

UC = Sewer usage charge ($/kL)

8.2.1 Sewerage access charge

The sewerage access charge is proportional to the square of the size of the water supply service connection.

Equation 2. Calculation of sewerage access charge

$$AC = (AC_{20} \times \frac{D^2}{400})$$

Where:

AC_{20} = Annual non-residential sewerage access charge for a 20 mm water service connection ($)

D = Water supply service connection size (mm)

8.2.2 Sewer usage charge

The sewer usage charge ($/kL) is applied for the volume of wastewater discharged to the sewerage system.

8.3 Liquid trade waste fees and charges

Liquid trade waste discharged to the sewerage system from non-residential customers can impose significant costs on transport and treatment facilities. To recover these costs and to ensure removal of any cross-subsidies from residential customers, appropriate fees and charges need to be levied to liquid trade waste dischargers. The liquid trade waste fees and charges are in addition to non-residential sewerage charges as described in s. 8.2.

The recommended liquid trade waste fees and charges for the relevant financial year are provided on the department's password protected website. Councils may adopt these fees and charges or calculate fees to suit their local requirements.

Council's liquid trade waste fees and charges may include:

- general fees and charges:
  - application fee
  - renewal fee
  - annual liquid trade waste fee
  - inspection and/or re-inspection fees
  - annual and re-inspection fees for premises with multiple activities (refer to s. 8.3.9)
- category-specific charges:
  - trade waste usage charges applicable to Category 2 discharges
  - excess mass charges applicable to Category 3 discharges
  - charges applicable to Classification S discharges
  - non-compliance charges
- other charges related to the nature of the waste:
  - charges for the discharge of large quantities of stormwater, groundwater or high quality water to the sewerage system
  - food waste disposal charges, etc.

8.3.1 General fees and charges

8.3.1.1 Application fee

The application fee recovers the costs of administration and technical services provided by council in processing a liquid trade waste application. This fee varies for different charging categories to reflect the complexity of processing the application.

8.3.1.2 Renewal fee

Council may apply a renewal fee if an existing approval is renewed or modified.

8.3.1.3 Annual trade waste fee

The purpose of this fee is to recover the costs incurred by council for ongoing administration and scheduled inspections, in order to ensure that the discharge complies with the approval conditions.

As part of an inspection, council may undertake monitoring, which may include, but is not limited to, flow measurement and sampling. In general, the cost of one inspection is included in the annual fee, in particular for Category 1 and 2 discharges (refer to s. 8.3.2.1 for charging categories).

The annual liquid trade waste fee varies for different charging categories in order to reflect the complexity of the inspection and administration requirements for the different types of discharge. In particular, for Category 3 discharges, council may opt to set the annual fee on a case-by-case basis to reflect the complexity of monitoring requirements and the extent of inspection.

Refer to s. 8.3.9 in regard to annual fees applicable to premises with multiple activities.

Council may require a discharger to pay for monitoring (quantity and quality) on the basis of full cost recovery.

8.3.1.4 Inspection fee/re-inspection fee

As indicated before, the cost of one inspection is usually included in the annual liquid trade waste fee for charging categories 1 and 2.

However, the need to conduct unplanned inspections or re-inspection of premises may arise in situations such as suspected non-compliance with approved conditions, or an investigation of an accident. Also, more frequent inspections may be necessary for large and industrial discharges.

Where more than one inspection is undertaken in a financial year and/or the cost of inspections are not included in the annual fee, costs may be recovered from the discharger in the form of a re-inspection fee.

The re-inspection fee of premises with multiple activities may need to be higher than the fee for stand-alone premises and should relate to the time spent on inspection of premises.

If samples are collected during the re-inspection, council may recover the cost of sample analysis from the discharger, in addition to the re-inspection fee.

8.3.2 Category-specific charges

The following sections describe the four charging categories and the fees and charges applicable to each category. Liquid trade waste discharges that fall into different categories are listed in ss. 8.3.3 to 8.3.6. If not listed, council needs to contact the department to assist with identifying the appropriate charging category.

8.3.2.1 Liquid trade waste charging categories

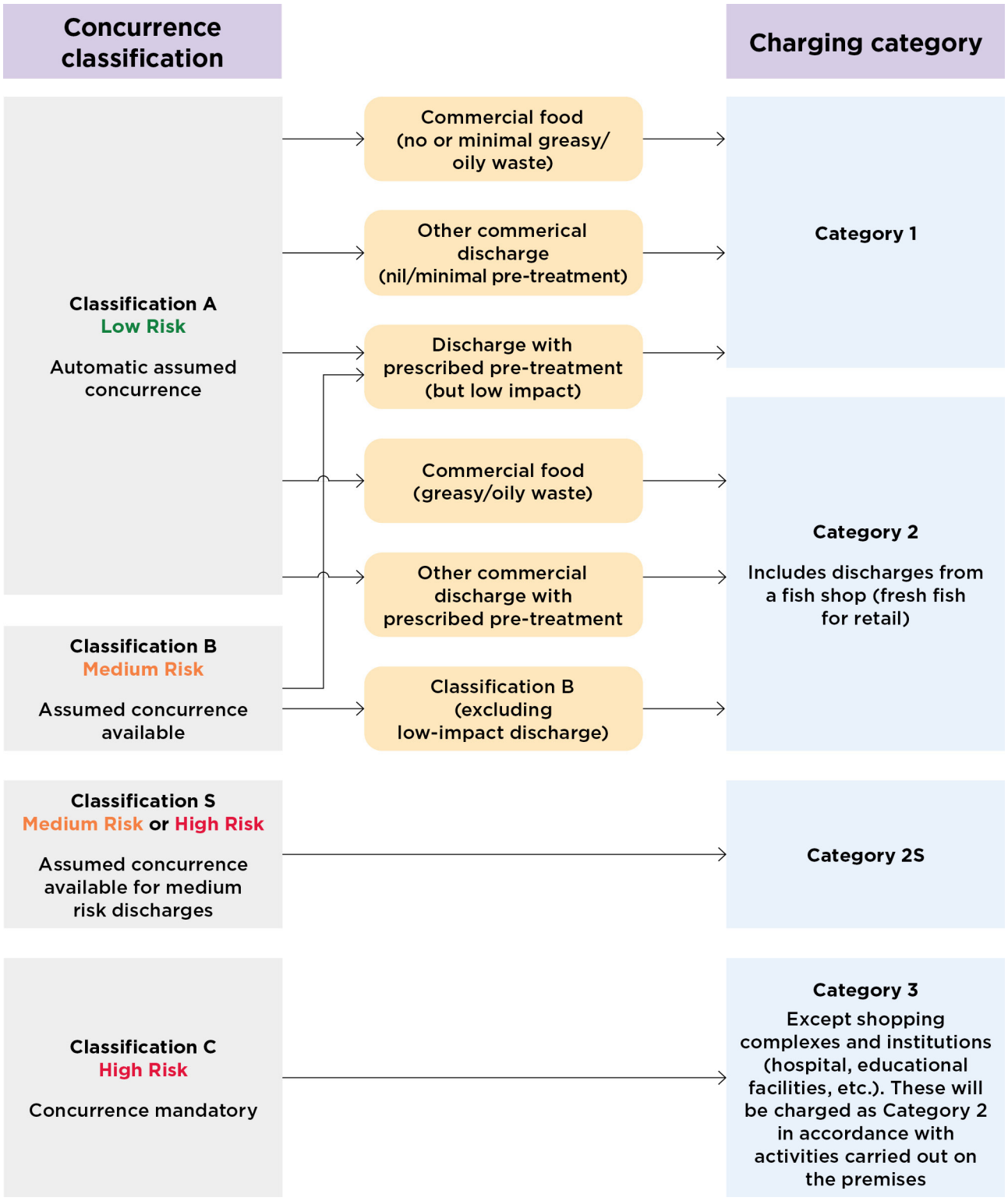
For charging purposes there are four liquid trade waste charging categories:

- Category 1—discharges requiring minimal pre-treatment, or prescribed pre-treatment but low impact on the sewerage system. Refer to s. 8.3.3 for list of discharges
- Category 2—discharges with prescribed pre-treatment[23] and other activities listed in Table 13. Refer to s. 8.3.4 for list of discharges
- Category 2S—transporters who tanker human waste to council's sewage treatment works, ship-to-shore pump-out facility owners/operators and owners/operators of 'dump points' that are directly connected to sewer. Refer to s. 8.3.5 for list of discharges
- Category 3—large (>20 kL/d) and industrial discharges (excluding shopping centres and institutions). Refer to s. 8.3.6 for examples of such discharges.

Note:
These charging categories are different to the four classifications established for concurrence purposes (i.e. Classifications A, B, C and S). The relationship between concurrence classifications and charging categories is shown in Figure 9.

23 Excludes activities in Category 1.

Figure 9. Charging categories for liquid trade waste



In summary, Classification A discharges fall into Charging Category 1 or Category 2. Classification B discharges fall into Charging Category 2, except for a few discharges with low impact on the sewerage system, which fall into Category 1. Classification S discharges fall into Charging Category 2S and Classification C discharges fall into Charging Category 3.

8.3.3 Category 1 dischargers

Category 1 liquid trade waste dischargers are those:

- conducting an activity requiring nil or minimal pre-treatment equipment
- whose effluent is well defined and of a type of waste that will pose relatively low risk to the sewerage system.

This charging category includes:

- Classification A discharges listed below
- Classification B discharges identified as low risk.

Some of the above discharges may require the installation of prescribed pre-treatment equipment. However, the treated effluent is considered to have a low impact on the sewerage system.

- **Classification A discharges—commercial retail food preparation activities that do not generate or generate minimal oily/greasy waste**: bakery (only bread baked on-site), bistro (sandwiches, coffee only), boarding/hostel < 10 persons, café/coffee shop/coffee lounge, canteen, community hall (minimal food), day care centre (minimal hot food), delicatessen (minimal or no hot food), fruit and vegetable shop, hotel/motel (minimal hot food), ice cream parlour (take away only), juice bar, mixed business, nightclub (no hot food), nut shop, pie shop (re-heating only), pizza no cooking/reheating (pizza heated and sold for consumption off-site), potato peeling (small operation), sandwich shop/salad bar (no hot food), takeaway food outlet (no hot food), school canteen with minimal hot food.
- **Classification A discharges from other commercial activities**: animal wash, beautician/tanning booths/hairdressing, crafts ≤ 1,000 L/d, dental surgery/dental technician (plaster casts), dry-cleaning, florist, funeral parlour, jewellery shop, medical centre/doctor surgery/physiotherapy (plaster casts only), mobile cleaning units, morgue, optical service, pet shop, plants retail (no nursery), non-residential swimming pool/hydrotherapy, veterinary.
- **Classification A or B discharges with prescribed pre-treatment and low impact on the sewerage system**: boiler blowdown, cooling tower, industrial boilers, laboratory (analytical/pathology/tertiary institution), laundry/laundromat, primary and secondary school[24], vehicle washing/detailing (excluding truck washing).

24 If significant hot food preparation is carried out, Category 2 charges may be levied by council.

8.3.3.1 Liquid trade waste charges for Category 1 dischargers

8.3.3.1.1 'Deemed to be approved' discharges

Council may elect to include in its policy 'deemed to be approved' discharges' (refer to s. 3.3.3 of these guidelines). These discharges generally involve minimal or no pre-treatment requirements and accordingly, the inspection of such premises, if conducted, is of a short duration. Some councils do not carry out such inspections on an annual basis.

If council's policy includes 'deemed to be approved' discharges, the following options may be considered in regard to annual fees:

- no annual fees to be levied where no annual inspections are carried out
- reduced annual fees due to short duration of the annual inspections carried out.

8.3.3.1.2 Category 1 discharger, other than 'deemed to be approved'

Category 1 dischargers who install recommended and appropriate pre-treatment equipment and maintain them regularly will be required to pay only the annual fee nominated for Category 1.

Equation 3. Calculation of liquid trade waste bill for Category 1 discharger (TW_1)

$TW_1 = A_1$

Where:

A_1 = Annual liquid trade waste fee ($) for Category 1

8.3.4 Category 2 dischargers

Category 2 liquid trade waste dischargers are those discharging waste generated by an activity listed below:

- **Classification A discharges—commercial retail food preparation/serving activities that generate oily/greasy waste**: bakery (pies, sausage rolls, quiches, cakes, pastries with creams or custards), bistro, boarding house/hostel kitchen (exceeding 10 persons), butcher, café/coffee shop/coffee lounge, cafeteria, canteen, chicken/poultry shop, day care centre with hot food, club, community hall[25], commercial kitchen/caterer, delicatessen with hot food, fast food outlet, fish shop (retail and cooking on-site), function centre, hotel, ice cream parlour, motel, nightclub, nursing home, patisserie, pizza cooking, restaurant, supermarket, takeaway food outlet with hot food, school canteen with hot food.
- **Classification A discharges—other commercial discharges**: car detailing, craft activities > 1000 L/d, lawnmower repairs, mechanical workshop, stone working, surfboard manufacture (wet process only).
- **Classification B discharges**: auto dismantler, bus/coach depot, bakery (wholesale), butcher (wholesale), construction equipment maintenance and cleaning, boutique or artisan foods, engine reconditioning, equipment hire, maintenance and cleaning, fish co-op, graphic arts, hospital, microbrewery, oyster processing—shucking, panel beating, radiator repairer, screen printing, service station forecourt, shopping complex, truck washing (platforms/flat beds) and truck washing (external).

25 If the type and size of kitchen fixtures installed enable catering for large functions.

8.3.4.1 Liquid trade waste charges for Category 2 dischargers

Category 2 dischargers who install appropriate pre-treatment equipment and maintain them will be required to pay the annual fee for Category 2 plus the trade waste usage charge.

Equation 4. Calculation of liquid trade waste bill for Category 2 discharger (TW_2)

$$TW_2 = A_2 + Q_{TW} \times C_2$$

Where:

A_2 = Annual liquid trade waste fee ($) for Category 2

Q_{TW} = Total liquid trade waste discharge volume (kL)

C_2 = Trade waste usage charge ($/kL)

Council has the option of having different trade waste usage charging rates for Category 2 discharges in Concurrence Classification B depending on the waste strength and its impact on the sewerage system. For example, the charging rate C_2 for activities generating high-strength waste (such as making cheese, condiments, etc.) may be higher than the charging rate for a commercial kitchen (such as a café, takeaway shop, etc.).

Flow measurement is usually not required for Category 2 discharges unless specified in chapter 5. The liquid trade waste discharge volume is generally estimated by applying a trade waste discharge factor to the total water consumption.

8.3.5 Category 2S dischargers

Category 2S dischargers include:

- transporters who tanker human waste to council's sewage treatment works—septic tank waste (effluent and septage), ablution block waste (blackwater and greywater), portable toilet waste, sludge from on-site aerated wastewater treatment systems for single households, waste from pit toilets, night soil
- ship-to-shore pump-out facility owners/operators—toilet waste and/or greywater
- owners/operators of 'dump points' that are directly connected to the sewerage system for disposal of toilet waste and/or greywater from a bus or a recreation vehicle (RV) (e.g. caravan, motor home).

8.3.5.1 Liquid trade waste charges for Category 2S discharger

8.3.5.1.1 Transported human waste

The transporters of human waste will be required to pay a waste disposal charge ($/kL). In addition, council may apply an annual fee associated with administration and other costs, for example the presence of council employees during the waste disposal, where appropriate.

Equation 5. Calculation of liquid trade waste bill for Category 2S waste transporter (TW_{TW})

$$TW_{TW} = A_{TW} + Q_{TW} \times C_{TW}$$

Where:

A_{TW} = Annual fee ($) for transported waste (if nominated by council)

Q_{TW} = Transported human waste volume (kL)

C_{TW} = Charging rate ($/kL) for the transported waste (may vary based on the type of waste transported)

Note:
Charging rate C_{TW} may vary for different type of waste, i.e. septic waste, ablution block waste, sludge from aerated wastewater treatment systems, etc. Refer to the schedule of recommended liquid trade waste fees and charges on the department's password protected website.

8.3.5.1.2 Ship-to-shore waste pump-out facility

The owner/operator of a ship-to-shore waste receival facility will be required to pay an annual fee and waste disposal charge based on the discharge volume ($/kL), if it is practical to estimate the volume. If discharge volume cannot be established, council may negotiate the waste disposal charge based on the expected discharge volume.

Equation 6. Liquid trade waste bill for ship-to-shore pump-out facility owner (TW_{STS})

$TW_{STS} = A_{STS} + Q_{TW} \times C_{STS}$

Where:

A_{STS} = Annual fee ($)

Q_{TW} = Discharge volume (kL) (measured or negotiated)

C_{STS} = Charging rate ($/kL)

As indicated in s. 7.1, the above charges are applicable to owners/operators of ship-to-shore pump-out facility discharging such waste directly to council's sewerage system and not to individual or commercial boat owners using the facility. These guidelines do not include information on how to charge individual boat owners using the facility to dispose of their wastewater.

8.3.5.1.3 Waste dump points

Dump points are often located in public places (roadside), hence the monitoring of discharge volumes is not practical. Accordingly, only an annual fee is recommended for stand-alone dump points.

Equation 7. Liquid trade waste bill for dump point operator (TW_{DP}), if applicable

$TW_{DP} = A_{DP}$

Where:

A_{DP} = Annual fee for dump point ($)

8.3.6 Category 3 dischargers (large or industrial waste dischargers)

Category 3 liquid trade waste dischargers are those conducting an activity that is of an industrial nature and/or results in the discharge of large volumes of liquid trade waste to the sewerage system.

Concurrence Classification A or B discharger (i.e. in Category 1 or 2) whose volume exceeds the limits indicated in chapters 4 and 5 (and indicated below) becomes a Category 3 discharger (excluding shopping centres and institutions):

- Classification A—discharge volume > 20 kL/d
- Classification B—greater than the volumes shown in Table 13.

All Classification C dischargers belong to Charging Category 3.

Classification C discharges include: abattoir, acid pickling, adhesive/latex manufacture, agricultural and veterinary drugs, anodising, bitumen and tar, bottle washing, brewery, cardboard and carton manufacture, carpet manufacture, caustic degreasing, chemicals manufacture and repackaging, contaminated site treatment, cooling towers, cosmetics/perfumes manufacture, cyanide hardening, dairy processing* (milk/cheese/yoghurt/ice cream, etc.), detergent/soaps manufacture, drum washing, egg processing, electroplating, extrusion and moulding (plastic/metal), feather washing, fellmonger, felt manufacture, fertilisers manufacture, fibreglass manufacture, filter cleaning, foundry, food processing* (cereals/cannery/condiments/confectionary/edible oils/fats/essence/flavours/fish/fruit juice/gelatine/honey/meat/pickles/smallgoods/tea and coffee/vinegar/yeast manufacture, etc.), food waste processing unit (digester/composter), fruit and vegetable processing, flour milling, galvanising, glass manufacture, glue manufacturer, ink manufacture, laboratories (excluding those in Categories 1 and 2), liquid wastewater treatment facility (grease trap receival depot and other pump-out waste depot), metal finishing, metal processing (refining/rumbling/non-cyanide heat treatment/phosphating/photo engraving/printed circuit etching/sheet metal fabrication etc.), mirrors manufacture, oil recycling (petrochemical) and refinery, paint stripping, paint manufacture, paper manufacture, pet food processing, plants nursery (open areas), pharmaceuticals manufacture, plaster manufacture, powder coating, potato processing, poultry processing, printing (newspaper, lithographic), saleyards, sandblasting, seafood processing, slipway, soft drink/cordial manufacture, starch manufacture, sugar refinery, tanker washing, tannery, timber processing (joinery and furniture/plywood/hardwood), textile manufacture (wool dyeing/spinning/scouring), tip leachate, transport depot/terminal, truck washing (internal), waxes and polishes, water treatment backwash, wholesale meat processing, winery, distillery, wine/spirit bottling.

* Excluding small boutique or artisan food industries not exceeding the discharge volume shown in Table 13.

8.3.6.1 Liquid trade waste charges for Category 3 dischargers

In general, Category 3 dischargers will be required to pay the annual liquid trade waste fee plus excess mass charges.

Equation 8. Liquid trade waste bill for Category 3 discharger (TW_3)

$TW_3 = A_3 + EMC$

Where:

A_3 = Annual liquid trade waste fee ($)[26]

EMC = Excess mass charges ($)

8.3.6.1.1 How excess mass charges are calculated

Excess mass charges will be applicable for substances discharged in excess of the 'deemed concentrations' in domestic sewage. For the purpose of excess mass charge calculation, the deemed concentrations of substances in domestic sewage are listed in Table 24.

26 Annual fee may vary for different business activities, depending on the complexity and time taken for inspection.

Table 24. Deemed concentration of substances in domestic sewage

Substance	Concentration (mg/L)
Biochemical oxygen demand (BOD_5)	300
Suspended solids	300
Total oil and grease	50
Ammonia (as Nitrogen)	35
Total Kjeldahl nitrogen (TKN)	50
Total phosphorus	10
Total dissolved solids	1,000
Sulphate (SO_4)	50[27]

Note:
Substances not listed above are deemed not to be present in domestic sewage.

For excess mass charge calculation, Equation 9 below will be applied for all parameters including for BOD_5 up to 600 mg/L (excluding COD and pH).

Equation 9. Calculation of excess mass charges

$$EMC (\$) = \frac{(S - D) \times Q_{TW} \times U}{1{,}000}$$

Where:

S = Concentration (mg/L) of substance in sample

D = Concentration (mg/L) of substance deemed to be present in domestic sewage

Q_{TW} = Volume (kL) of liquid trade waste discharged to the sewerage system

U = Unit charging rate ($/kg) for the substance (this rate varies from substance to substance—refer to council's annual management plan for charging rates for various substances)

27 The concentration in the potable water supply to be used if it is higher than 50 mg/L.

8.3.6.1.2 Examples of calculating excess mass charges

Example 1—A substance is present in domestic sewage

A meat processing business has council's approval for liquid trade waste discharge with a limit for ammonia 50 mg/L. The concentration of ammonia in the liquid trade waste sample is 45 mg/L and the volume discharged during the billing period is 10 ML. Calculate EMC for ammonia.

While the discharge complies with the conditions of approval, the concentration of ammonia is higher than the deemed concentration in domestic sewage. Accordingly, the discharger needs to be charged as shown below, by using Equation 9.

The concentration of ammonia in the sample (S) = 45 mg/L

The deemed concentration of ammonia in domestic sewage as shown in Table 24, (D) = 35 mg/L

The volume of liquid trade waste for the billing period Q_{TW} = 10 ML

If council's charging rate for ammonia (as per the management plan) is $2.40 per kg, then the excess mass charge for ammonia is:

$$EMC\ (NH_3) = \frac{(45 - 35) \times 10{,}000 \times 2.40}{1{,}000} = \$240$$

Example 2—A substance is deemed not to be present in domestic sewage

An electroplating business discharges liquid trade waste containing copper. The approved limit for copper is 5 mg/L. The concentration of copper in liquid trade waste discharge is 3 mg/L, so the discharger complies with the conditions of approval. The discharge volume for the billing period is 600 kL. Calculate EMC for copper.

Copper is not included in Table 24, accordingly it is deemed not to be present in domestic sewage (i.e. D=0). EMC for copper is calculated by using Equation 9, as shown below.

The concentration of copper in a sample (S) = 3 mg/L

The deemed concentration of copper in domestic sewage (D)=0

The volume of liquid trade waste for the billing period Q_{TW} = 600 kL

If council's charging rate for copper (as per the management plan) is $16.50 per kg, then the excess mass charge for copper is:

$$EMC\ Cu = \frac{(3 - 0) \times 600 \times 16.50}{1{,}000} = \$29.70$$

8.3.6.1.3 Excess mass charges for BOD_5 up to 600 mg/L

Equation 9 applies for BOD_5 up to 600 mg/L. There are no excess mass charges for BOD_5, if the BOD_5 concentration does not exceed 300 mg/L (deemed concentration of BOD_5 in domestic sewage).

8.3.6.1.4 Excess mass charges for BOD_5 exceeding 600 mg/L

If council approves the acceptance limits for BOD_5 higher than 600 mg/L, an exponential-type equation will be used for calculation of the charging rate U_e ($/kg) as shown in Equation 10. This provides a strong incentive for dischargers to reduce the strength of waste. Equation 13 will be used where the discharger has failed to meet their approved BOD_5 limit on two or more instances in a financial year.

The excess mass charging rate U_e in $/kg for BOD_5 is calculated as shown in Equation 10.

Equation 10. Calculation of U_e ($/kg) for BOD_5

$$U_e = 2C \times \frac{(\text{Actual BOD} - 300\ \text{mg/L})}{600\ \text{mg/L}} \times 1.05^{\frac{(\text{Actual BOD} - 600\ \text{mg/L})}{600\ \text{mg/L}}}$$

Where:

C = Charging rate ($/kg) for BOD_5 600 mg/L

Actual BOD_5 = Concentration of BOD_5 as measured in a sample

Example 3

Council has approved the acceptance limit for BOD_5 as 1,000 mg/L. The BOD_5 tested in a sample is 800 mg/L (Actual BOD_5). The volume of liquid trade waste for the billing period is 2 ML. If council's charging rate for BOD 600 mg/L (C) is $0.80 per kg, calculate EMC for BOD_5.

The excess mass charging rate is calculated by using Equation 10:

$$U_e = 2 \times 0.80 \times \frac{(800 - 300)}{600} \times 1.05^{\frac{(800 - 600)}{600}} = 1.36\ (\$/\text{kg})$$

Use Equation 9 to calculate the excess mass charge for BOD_5 > 600 mg/L.

$$\text{EMC for BOD} > 600\ \text{mg/L}\ (\$) = \frac{(S - D) \times Q_{TW} \times U_e}{1{,}000}$$

$$\text{EMC for BOD}\ (\$) = \frac{(800 - 300) \times 2{,}000 \times 1.36}{1{,}000} = \$1{,}355$$

In order to assist councils with calculations of the above charges, the department has developed a software program 'BOD Bill Calculator', available at the department's password protected website.

8.3.6.2 Tankered Category 3 waste

In some instances, liquid waste that falls into Charging Category 3 is transported to the sewage treatment works. Examples of such waste may include tankered landfill leachate, dairy waste from unsewered areas, etc. In such instances, council needs to decide to whom the liquid trade waste approval (and relevant charges) are to be issued.

Council needs to develop individual charges applicable to each type of such waste. These charges may include the following:

- **volume-based charge**—this should generally be lower than the non-residential sewerage charging rate, as the waste is not transported to sewage treatment works via council's sewer infrastructure
- **mass charges**, where applicable. These must be based on the quality of the waste, such as in the following examples:
  - Leachate from a landfill may have a high concentration of ammonia. In such cases, council may apply a volume-based charge plus mass charge for ammonia using equations listed under Charging Category 3.
  - Dairy waste is transported to the sewage treatment works. The mass charges may be applicable based on periodical testing of samples. Alternatively, should council wish to simplify the charging method, council may negotiate a volume-based charging rate ($/kL) taking into consideration the expected pollutant load.

8.3.7 Non-compliance liquid trade waste charges

8.3.7.1 Non-compliance charges for Category 1 and 2 dischargers

If the discharger has not installed or maintained appropriate pre-treatment equipment, the non-compliance trade waste usage charges listed in ss. 8.3.7.1.1 and 8.3.7.1.2 will be applied for the relevant billing period.

8.3.7.1.1 Category 1 discharger

The trade waste usage charge ($/kL) as per council's management plan must be applied.

For example, if the trade waste usage charge in council's management plan is $1.80 per kL, then the non-compliance charge for a Category 1 discharger is $1.80 per kL for that financial year.

8.3.7.1.2 Category 2 discharger

For a Category 2 discharger, a non-compliance charge may be 5 to 10 times higher than the trade waste usage charge ($/kL).

For example, if the trade waste usage charge in council's management plan is $1.80 per kL, council may decide to include in its management plan a non-compliance charging rate for a Category 2 discharger within the range of $9.00 per kL to $18 per kL for that financial year.

Dischargers who have an undersized grease arrestor and improved the effluent quality by other means (such as increased pump-outs, installing additional pre-treatment equipment, etc., refer to s. 3.3.1), will pay a trade waste usage charge in accordance with a Category 2 discharger, for example $1.80 per kL.

Dischargers who cannot install a grease arrestor or those who have an arrestor with capacity significantly less than the required capacity and are unable to improve the effluent quality by means described above will have to pay the non-compliance trade waste usage charges, which in this example is up to $18 per kL.

8.3.7.2 Non-compliance charges for Category 3 dischargers

If a Category 3 discharger fails to comply with the acceptance limits specified in council's approval conditions, council incurs additional costs in accepting and treating that waste. Council may also face problems with compliance with its licence and management of effluent and biosolids.

In order to encourage compliance, council may apply non-compliance trade waste charges, such as non-compliance pH charges and non-compliance excess mass charges.

It is recommended that council does not apply these charges if a discharger has failed to meet the approved limits on a first occasion. This is to allow for potential sampling errors. It is recommended that a second sample be taken and analysed as soon as non-conforming test results are available. Non-compliance charges need to be applied if the second sample also fails to meet the approval limits. The discharger should also pay for additional monitoring and testing costs.

The non-compliance excess mass charges shown below are in lieu of the excess mass charges in s. 8.3.6.

Council must continue applying non-compliance charges until the quality of discharge complies with council's approved limits, within a time frame determined by council for remedying the problem. If the discharger fails to rectify the problem within a given time frame, the discharger may be required to cease discharging liquid trade waste into council's sewerage system. Council may also issue penalty infringement notices to non-compliant dischargers or may prosecute the discharger. Refer to s. 2.8 of these guidelines.

8.3.7.2.1 Non-compliance pH charge

If the pH of the waste discharged by Category 3 dischargers is outside the approved range, Equation 11 is used for the calculation of non-compliance pH charges. This equation provides an incentive for dischargers to install and properly maintain a pH correction system so that the waste remains within the approved pH limits.

Equation 11. Charging rate for pH, if outside the approved range

$$K \times |\text{actual pH} - \text{approved pH}| \times 2^{|\text{actual pH} - \text{approved pH}|}$$

Where:

K = pH coefficient in $

Note: Use absolute values in the above calculations

Example 4

Council has approved the pH range 7.0 to 9.0 for a large discharger. pH coefficient (K) listed in council's management plan is $0.45.

Case 1: *Measured pH is 5.5*

Charging rate for pH ($/kL) = $0.45 \times |5.5 - 7| \times 2^{|5.5-7|}$ = $1.91 per kL

Case 2: *Measured pH is 11.0*

Charging rate for pH ($/kL) = $0.45 \times |11 - 9| \times 2^{|11-9|}$ = $3.60 per kL

8.3.7.2.2 Non-compliance excess mass charges

Equation 12 applies for non-compliance excess mass charges for various substances, except for BOD_5 where Equation 13 will apply.

Equation 12. Calculation of non-compliance excess mass charges

$$\text{Non-compliance excess mass charges (\$)} = \frac{(S - A) \times Q \times 2U}{1{,}000} + \frac{(S - D) \times Q \times U}{1{,}000}$$

Where:

S = Concentration (mg/L) of a substance in sample

A = Approved maximum concentration (mg/L) of pollutant as specified in council's approval (or liquid trade waste policy)

Q = Volume (kL) of liquid trade waste discharged for the period of non-compliance

U = Excess mass charging rate ($/kg) for the substance, as shown in council's annual management plan

D = Concentration (mg/L) of the substance deemed to be present in domestic sewage

Example 5

A dairy has an approval to discharge liquid trade waste with a maximum oil and grease limit of 100 mg/L. The concentration of oil and grease in a sample is 300 mg/L. The volume of trade waste for the billing period is 2 ML. Council's charging rate for oil and grease is $1.45 per kg. Calculate non-compliance charges for oil and grease.

The non-compliance excess mass charge for oil and grease is calculated using Equation 12 (the deemed concentration of oil and grease from Table 24 is 50 mg/L).

The oil and grease as tested in a sample (S) is 300 mg/L.

Council approved the acceptance limit of oil and grease (A) is 100 mg/L.

The volume of liquid trade waste for the billing period is 2 ML.

Non-compliance charges for oil and grease for the billing period is:

$$\frac{(300 - 100) \times 2{,}000 \times 2\ (1.45)}{1{,}000} + \frac{(300 - 50) \times 2{,}000 \times 1.45}{1{,}000} = \$1{,}885$$

8.3.7.2.3 Non-compliance excess mass charges for BOD_5

The non-compliance excess mass charging rate (U_n) for BOD_5 is calculated by using Equation 13.

Equation 13. Calculation of non-compliance excess mass charges for BOD_5

$$U_n = 2C \times \frac{(A - 300\ \text{mg/L})}{600\ \text{mg/L}} \times 1.05^{\frac{(A - 600\ \text{mg/L})}{600\ \text{mg/L}}} + 4C \times \frac{(\text{Actual BOD} - A)}{600\ \text{mg/L}} \times 1.05^{\frac{(\text{Actual BOD} - A)}{600\ \text{mg/L}}}$$

Where:

U_n = The BOD_5 non-compliance excess mass charging rate in ($/kL)

A = BOD_5 approved limit

C = Charging rate for BOD_5 600 mg/L

Example 6

The BOD$_5$ approved limit (A) is 1,000 mg/L. The actual BOD_5 measured in a sample is 2,400 mg/L. The volume of the liquid trade waste for the billing period is 2 ML. If the charging rate for BOD_5 600 mg/L (C) is $0.80 per kg, calculate non-compliance BOD_5 charges for the billing period.

Non-compliance excess mass charging rate for BOD_5 of 2,400 mg/L (U_n) is calculated by using Equation 13:

$$U_n = 2 \times 0.80 \times \frac{(1{,}000 - 300)}{600} \times 1.05^{\frac{(1{,}000 - 600)}{600}} + 4 \times 0.80 \times \frac{(2{,}400 - 1{,}000)}{600} \times 1.05^{\frac{(2{,}400 - 1{,}000)}{600}}$$

= 10.30 ($/kg)

Non-compliance excess mass charge for BOD_5 is calculated using Equation 9:

$$\text{EMC (\$)} = \frac{(S - D) \times Q_{TW} \times U_n}{1{,}000}$$

$$\text{Non-compliance EMC for BOD (\$)} = \frac{(2{,}400 - 300) \times 2{,}000 \times 10.30}{1{,}000} = \$43{,}240$$

Non-compliance excess mass charges can be calculated by using the BOD Bill Calculator available on the department's password protected website.

8.3.8 Other applicable liquid trade waste charges

8.3.8.1 Food waste disposal charge

Where council has permitted the connection of a food waste disposal unit[28] (in-sink food waste disposers) in a hospital, nursing home or other eligible facility, council may apply additional food waste disposal charges. These charges are in addition to category-specific liquid trade waste fees and charges (for example Category 2 charges plus U_F).

Equation 14. Calculation of food waste disposal charge

Food waste disposal charge ($) = $B \times U_F$

Where:

B = Number of beds in hospital or nursing home

U_F = Annual charging rate ($/bed) for a food waste disposal unit at a hospital or nursing home

8.3.8.2 Solid food waste processing unit

Discharge of waste from a solid food waste processing unit (digester/composter) is classified as Concurrence Classification C and is in Charging Category 3.

Excess mass charges for all parameters in excess of the deemed concentrations in domestic sewage will be applicable to the waste stream from such equipment (refer s. 8.3.6.1 for further information).

In addition, the discharger has to bear the cost of frequent sampling as the quality of wastewater dependent on the solid waste input to the processing unit and the effectiveness of the on-site pre-treatment equipment.

28 For existing installations only. New installations are not permitted.

8.3.8.3 Stormwater, groundwater and high-quality water

The discharge of roof, rain, surface, seepage or groundwater to the sewerage system is prohibited under clause 137A of the Local Government (General) Regulation 2005 and this policy. As indicated in s. 3.2.2.2 of these guidelines, the acceptance of first-flush stormwater run-off may be permitted based on a case-by-case assessment.

Discharge of stormwater from a large open areas and large quantities of groundwater[29] or high-quality treated water is discouraged. If discharge of such waters is approved, a volume-based charging rate same as the non-compliance usage charging rate ($/kL) for Category 2 will be applied (for example 5 to 10 times the trade waste usage charging rate listed in council's management plan). Excess mass charges may also be applied to such dischargers in accordance with s. 8.3.6.

8.3.9 Charges for premises with multiple liquid trade waste streams

Examples of premises with multiple waste streams include:

- shopping centres
- commercial strata units
- institutions (e.g. hospitals, tertiary educational facilities and correctional centres)
- other premises with multiple waste streams (e.g. premises comprising food cooking/serving activities and 'boutique/artisan food' businesses). A liquid trade waste application may include, for example, a restaurant or a hotel, a microbrewery, a chocolate making and/or a cheese making shop, all at the same premises.

8.3.9.1 Shopping centre

A shopping centre may have liquid trade waste dischargers:

- that use individual pre-treatment equipment (for example, a car wash facility with a mineral oil separator)
- sharing pre-treatment equipment (for example, a few takeaway shops discharging into a common grease arrestor)
- with 'deemed to be approved' discharges such as hairdressers, beauticians, florists, etc.

As indicated in s. 8.3, an annual fee includes the cost of an annual inspection and administration costs.

Time spent on inspecting a premises with multiple activities may vary significantly, thus the inspection cost may vary. Furthermore, council may either issue a single trade waste bill to the management of multi-activity premises or separate bills to individual dischargers. Accordingly, the administration costs may vary.

Councils may consider the following options for levying annual liquid trade waste fees to premises with multiple liquid trade waste activities.

29 Excludes site remediation.

Table 25. Annual liquid trade waste fees—'deemed to be approved' discharges[30]

Inspections	Annual fees
No inspections	No fees
Annual inspection	Reduced annual fees (for example, 50% of Category 1 annual fees)

Table 26. Annual liquid trade waste fees—activities in Category 1 or 2[31]

Pre-treatment options	Annual fees
Individual pre-treatment equipment	**Option 1**—Individual bill to each discharger in accordance with the charging category **Option 2**—A bill to the management that covers all discharges in accordance with the relevant charging category[32]
Shared pre-treatment equipment (grease arrestor, oil separator, cooling pit, general-purpose pit)	**Option 1**—Individual bill to each business with shared equipment but with reduced annual fee to each discharger (irrespective of category) **Option 2**—Annual fee to centre management as per management plan for Category 2, which covers up to four waste streams. A reduced annual fee to be levied for each additional waste stream (e.g. 25% of the Category 2 annual fee for each additional stream).

8.3.9.1.1 Trade waste usage charge

As indicated in s. 8.3.4.1, flow measurement is not required for shopping centres. The liquid trade waste discharge volume can be calculated by applying a trade waste discharge factor.

8.3.9.2 Commercial strata title units

Councils will issue individual liquid trade waste bills to each owner of the strata title unit. For dischargers with individual pre-treatment equipment, all fees and charges will be in accordance with the charging category.

If the prescribed equipment is shared (grease arrestor, oil separator, cooling pit, general-purpose pit), council may apply a reduced annual fee to the respective owners considering shorter duration of inspection of the shared equipment.

30 Councils may or may not inspect annually. Generally, inspections of 'deemed to be approved' discharges are of a relatively short duration.

31 Excluding those listed in Table 25 above, if adopted.

32 This bill should be less than the total sum of annual fees as per Option 1 considering lower administration costs. For example, the small shopping centre has three shops in Category 1 and two shops in Category 2 with individual pre-treatment equipment. Council's management plan indicates annual fee for Category 1 as $96 and Category 2 as $193: Sum of annual fees = 3 x 96 + 2 x 193 = $674. It is recommended that council considers reducing the above fee due to lower administration cost. For example, if reduced by 30% (council to select the appropriate percentage), the annual fee for the above shopping centre is $674 x 70/100 = $471.80.

8.3.9.3 Hospitals, tertiary educational facilities and correctional centres

Council will generally issue a liquid trade waste bill to the management of these premises.

The annual fee needs to be in accordance with the relevant charging category, which is Category 2 for hospitals and educational facilities. A correctional centre may fall into Category 3, if industrial activities are carried on-site.

As indicated in Table 26 (Shared pre-treatment—Option 2), the annual fees may cover up to four discharges with pre-treatment equipment. For each additional discharge, it is recommended that councils apply a reduced annual fee, for example 25–30% of the annual fee as per the management plan, due to the reduced administration cost.

At these types of premises, food preparation activities are often carried out by an outside contractor, for example takeaway food outlets within educational facilities. Council may consider issuing a separate liquid trade waste bill for such individual shops, where practical. It may require an individual water meter or a check meter to be installed at the relevant service line.

8.3.9.4 Other premises with multiple waste streams

There are some premises where various 'boutique type' businesses are located on the same site as restaurants, café, etc. For example, a premises may include a restaurant, a microbrewery, a chocolate making shop and a cheese making business, all owned by the same owner. When a liquid trade waste application includes a few different activities on the same site, council needs to consider the following matters:

- concurrence classification and charging category
- liquid trade waste fees and charges.

8.3.9.4.1 Concurrence classification and charging category

If liquid trade waste discharges fall into Concurrence Classification A (such as a restaurant) and Concurrence Classification B (such as those in 'boutique/artisan food' type industries), the discharge from the whole site is assessed as Concurrence Classification B. Council needs to check that the discharges from 'boutique/artisan food' activities do not exceed the discharge limit indicated in Table 13 in chapter 5. Such a site falls into a Category 2, with liquid trade waste fees and charges indicated in s. 8.3.4.

If the volume of wastewater generated by boutique/artisan food-type activity exceeds the limit in Table 13, (for example a cheese making shop discharges more than 3 kL/d), then this business falls into Concurrence Classification C. In that case the whole site is assessed as Concurrence Classification C (refer to s. 1.9). Such applications need to be forwarded to the Water Utilities Branch of the Department of Planning, Industry and Environment seeking concurrence to council's approval. Also, the department will provide further guidance on sampling/monitoring for such situations on a case-by-case basis.

8.3.9.4.2 Liquid trade waste fees and charges

If the site falls into Category 2, it is recommended that the annual fee be levied as indicated in Table 26 under the section titled 'Individual pre-treatment equipment—Option 2' (refer to an example shown in Footnote 32).

As discussed in s. 8.3.4.1, council may use different trade waste usage rates for the discharge of high-strength wastes in Charging Category 2.

For situation where there are combined waste streams that belong to charging categories 2 (Classifications A and B) and 3 (Classification C) and when the Category 2 discharge is predominant, it is recommended that Category 3 trade waste fees and charges be applicable only to Classification C discharge (ie. a cheese making shop in above example) and the rest of the site be charged as Category 2.

8.4 Summary of liquid trade waste fees and charges

A summary of fees and charges is shown in Table 27.

Table 27. Summary of liquid trade waste fees and charges

Fee/Charge	Category 1	Category 2	Category 3	Category 2S
Application fee	Yes[33]	Yes	Yes	Yes
Annual non-residential sewerage bill with appropriate sewer usage charge per kL	Yes	Yes	Yes	No
Annual liquid trade waste fee	Yes[34]	Yes	Yes	Variable[35]
Re-inspection fee (when required)	Yes	Yes	Yes	Optional[36]
Trade waste usage charge per kL	No	Yes	No	No
Human waste disposal charge per kL	No	No	No	Yes
Excess mass charges per kg	No	No	Yes	No
Non-compliance trade waste usage charge per kL	Yes[37]	Yes[37]	No	No
Non-compliance excess mass per kg and pH charges per kL (if required)	No	No	Yes	No

Note:
Other applicable charges are not included in this table (refer to s. 8.3.8).

All dischargers of liquid trade waste to council's sewerage system need to be aware that, if the discharge is not approved or fails to comply with the approval conditions, they are subject to prosecution and imposition of fines under the *Local Government Act 1993* and the *Protection of the Environment (Operations) Act 1997* and associated Regulations. In addition to fines, council may recover costs of damages and fines incurred by council as a result of an illegal liquid waste discharge.

33 Not applicable for discharges listed as Deemed to be Approved.

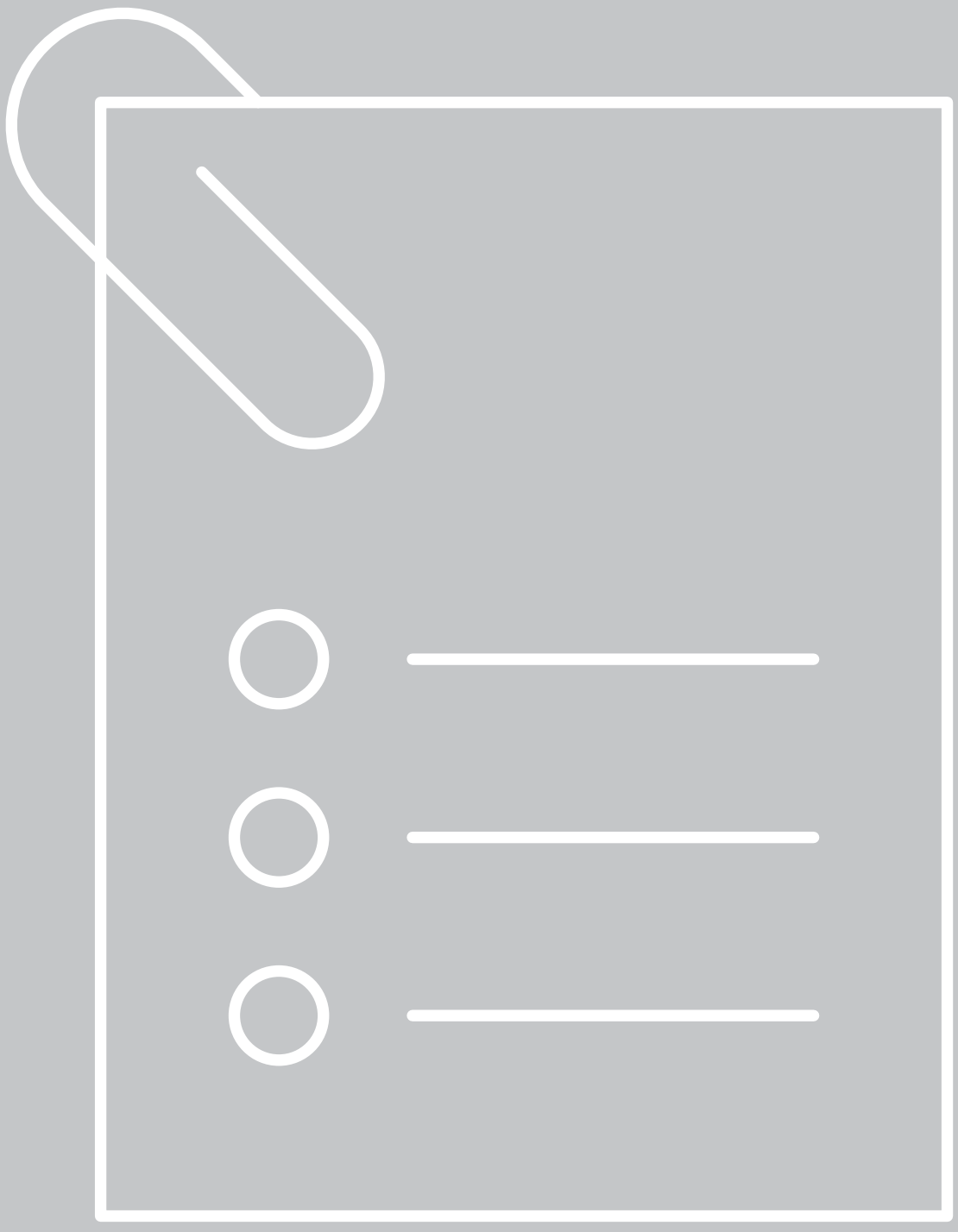
34 May not be applicable for discharges listed as Deemed to be Approved.

35 Refer to s. 8.3.5 for guidance on applying annual fees to Category 2S discharges.

36 Applicable if re-inspection of facilities is required, for example, ship-to-shore pump-out facility.

37 Non-compliance trade waste usage charge, if the discharger fails to install or properly maintain appropriate pre-treatment equipment: Category 1—$1.80 per kL, if Council's management plan has trade waste usage charging rate for Category 2 as $1.80 per kL and for Category 2—within the range of $9.00 per kL to $18 per kL (refer to s. 8.3.7).

9 Appendices



Appendix A
Discharges with assumed concurrence and copy of annual reporting pro forma

All councils have assumed concurrence for approval of Classification A discharges listed in Table A1 subject to conditions.

The Secretary of the Department of Planning, Industry and Environment has previously issued a Notice of Concurrence for some liquid trade waste discharges (Classification A) under s. 90(2) of the *Local Government Act 1993* to all councils that have responsibility for the approval of liquid trade waste discharges to its sewerage system, subject to compliance with the following requirements:

- Approval needs to be issued as per chapter 4 of these guidelines unless exempted by council in its liquid trade waste policy as per Table D1, Appendix D.
- A list of liquid trade waste discharges approved by council under the assumed concurrence needs to be forwarded to the department at the end of each financial year. The reporting pro forma is provided in this appendix.

Note:
If a discharger does not comply with the pre-treatment requirements and other requirements listed in chapter 4, the assumed concurrence to council's approval is not available for such discharges.

Table A1. List of liquid trade waste discharges with assumed concurrence[38]

Commercial retail food preparation activities	Other commercial activities
Bakery (retail)	Animal wash (pound, stables, racecourse, kennels, mobile animal wash)
Bed and Breakfast (<10 persons)	Beautician
Bistro	Boiler blowdown
Boarding house/hostel kitchen	Car detailing
Butcher shop (retail)	Cooling tower
Café/coffee shop/coffee lounge	Craft activities (pottery, ceramics, cutting and polishing of gemstones or making of jewellery)
Canteen	Dental surgery
Cafeteria	Dental technician
Chicken/poultry shop (fresh chicken/game, retail barbeque/roast chicken)	Dry-cleaning (separator water, boiler)
Club (kitchen wastes)	Florist
Commercial kitchen/caterer	Funeral parlour/morgue
Community hall/civic centre/function centre (kitchen waste)	Hairdressing
Day care centre	Jewellery shop
Delicatessen	Laboratory (pathology/analytical)
Doughnut shops	Laundry or laundromat (coin operated)
Fast food outlets (McDonalds, KFC, Burger King, Hungry Jack, Pizza Hut, Red Rooster, etc.)	Lawnmower repairs
Fish shop (retail—fresh and/or cooked)	Mechanical repairs/workshop
Fruit and vegetable shop (retail)	Medical centre/doctor surgery/physiotherapy—plaster of paris casts, laboratory
Hotel	Mobile cleaning units
Ice cream parlour	Nursing home (other than food-related activities)
Juice bar	Optical service
Mixed business	Pet shop (retail)
Mobile food van	Photographic tray work/manual development
Motel	Plants retail (no nursery or open space)
Nightclub	School (other than kitchen waste)

38 The list of activities generating liquid trade waste in Table A1 may be reviewed by the department from time to time in response to new developments. Councils will be notified of any amendments.

Commercial retail food preparation activities	Other commercial activities
Nursing home kitchen	Stone working
Nut shop	Surfboard manufacturing (wet process)
Patisserie	Swimming pool/spa/hydrotherapy
Pie shop	Vehicle (car) washing (by hand/wand, automatic car wash/bus wash/external truck wash or underbody/engine degrease only)
Pizza shop	Venetian blind cleaning
Restaurant	Veterinary Surgery
Salad bar	–
Sandwich shop	–
School canteen and Home science	–
Snack bar	–
Supermarket (with butcher/bakery/delicatessen/ seafood or roasted chicken)	–
Takeaway food shop	–

A copy of a reporting pro forma, which is listed on the following page, can also be downloaded from the department's password protected website.

Annual reporting pro forma for discharges with assumed concurrence+

Name of council _____

Name of STW _____ Period from _____ to _____

Name of the business	Street address	Type of business	Pre-treatment equipment		Daily discharge quantity (kL)	Date of approval	If the business has changed ownership		Concurrence classification
			Type	Size			Previous name	Previous date of approval	

+ Council needs to report all Classification A, (B and S if granted) discharges approved by council under assumed concurrence.

Annual reporting pro forma for discharges with assumed concurrence (undersized grease arrestors)

Name of council _____

Name of STW* _____ Period from _____ to _____

Name of the business	Street address	Type of business	Capacity of the grease arrestor		Daily discharge quantity (kL)	Date of approval	If the business has changed ownership		Concurrence classification
			Existing	Required			Previous name	Previous date of approval	

* One form to be completed for each sewage treatment works.

Appendix B
Liquid trade waste provisions in the Local Government Act, Water Management Act and associated Regulations

Local Government Act 1993[39]

59A	Ownership of water supply, sewerage and stormwater drainage works
60–65	Approval of the Minister and Powers of the Minister
68	What activities, generally, require the approval of council?
72–74	Crown activities
75–91, 94–101, 103, 105–113	Making and determination of applications for approval
124	Orders
158–167	Adoption of local policies concerning approvals and orders
191–199	Entry on to land and other powers
495, 497–502	An overview of rates and charges
539–542	Making of rates and charges
565	Capital contributions instead of payment of special rates or charges
608–609	Fees
626–628	General offences
634–640	Water, sewerage and stormwater drainage offences

Local Government (General) Regulation 2005

3	Definitions
25	Applications for approvals
28, 30	Determination of applications for approvals
31–32	Conditions of approvals
77	Public notice of draft local approvals policies
84–87	Orders requiring or prohibiting the doing of things to or on premises
94–96	Orders requiring the preservation of healthy conditions
99	Information to be included in Orders
137A	Substances prohibited from being discharged into public sewers
143	Inspection of pipes and drains and measurement of water and sewage
146	Connections to council's sewerage system

39 Sections in the Local Government Act and clauses in the Regulation relating to liquid trade waste discharges to sewer are not limited to those listed above. Councils are required to become familiar with all relevant provisions of the Act and the Regulation.

159 Prevention of waste and misuse of water

160 Misuse of water

SCHEDULE 1, Part 2

SCHEDULE 2, Parts 2–4

SCHEDULE 12—Penalty notice offences

Water Management (General) Regulation 2018

Subdivision 3 Discharges into sewerage systems

146 Definitions

147 Discharge policies

148 Discharges require discharge approval

149 Application for discharge approval

150 Conditions of discharge approvals

151 Duration of discharge approvals

152 Renewal of discharge approvals

153 Suspension or cancellation of discharge approval

Note:
Council should also be aware that there are provisions in relation to regulation of liquid trade waste in other legislations such as the *Protection of the Environment Operations Act 1997* and the Protection of the Environment Operations (General) Regulation 2009 (i.e. S. 120—Prohibition of pollution of waters and, cl. 56—Exemption from water pollution offence for pollutants discharged into sewer), the *Marine Pollution Act 2012* and Marine Pollution Regulation 2014, etc.

B1 Local Government (General) Regulation 2005

The following are direct quotes from the relevant sections of the Regulation.

Clause 25 Matters to accompany applications relating to discharge into sewers

An application for approval to discharge trade waste into a sewer under the control of council or that connects with such a sewer must be accompanied by the information required by Table 1 to the Liquid Trade Waste Management Guidelines[40].

Clause 28 Approval to discharge waste into sewers: concurrence required

Council must not grant an approval under section 68 of the Local Government Act to discharge trade waste (whether treated or not) into a sewer of council unless the Director-General of the Department of Trade and Investment, Regional Infrastructure and Services (or that Director-General's nominee) has concurred with the approval.

Note:
Section 90 (2) of the Local Government Act permits any person or authority whose concurrence is required before an approval may be granted to give council notice that the concurrence may be assumed (with such qualifications or conditions as are specified in the notice).

Clause 32 Disposal of trade waste

(1) An approval to dispose of trade waste into a sewer of council is subject to such conditions (if any) as council specifies in the approval.

(2) In imposing any such conditions, council is to have regard to the matter set out in Table 5 of the Liquid Trade Waste Management Guidelines[52].

Clause 159 Prevention of waste and misuse of water

The owner, occupier or manager of premises to which water is supplied by council must:

(a) prevent waste of water by taking prompt action to repair leaking taps, pipes or fittings located on the premises, and

(b) take any other action that is reasonable to prevent waste and misuse of water.

Clause 137A Substances prohibited from being discharged into public sewers

(1) For the purposes of Section 638 of the Act (Discharge of prohibited matter into sewer or drain), roof, rain, surface, seepage or ground water is prescribed as prohibited matter.

(2) This clause does not apply in relation to:

(a) a discharge that is specifically approved under section 68 of the Act, or

(b) a discharge into a public drain or a gutter of council, or

(c) a discharge in an area of operations within the meaning of the Sydney Water Act 1994 or the Hunter Water Act 1991.

40 **'Liquid Trade Waste Management Guidelines'** means the Guidelines of that name produced by the Department of Energy, Utilities and Sustainability in March 2005, as in force from time to time.
The 2005 guidelines have been now superseded by the Liquid Trade Waste Management Guidelines, 2020 (these guidelines).

Clause 143 Inspection of pipes and drains and measurement of water and sewage

(1) Council may, at any reasonable time:

(a) inspect any service pipe connected to a water main, and

(b) inspect any drain connected to a sewer main, and

(c) install meters or other devices for measuring the quantity of water supplied to, or the quality and quantity of sewage discharged from, premises, and

(d) measure the quantity of water supplied to, or the quality and quantity of sewage discharged from, premises, and

(e) inspect any pre-treatment devices connected to council's sewerage system.

(2) The occupier of the relevant premises must provide to council such information as it requires to enable it to estimate the quantity of water actually supplied to, or the quality and quantity of sewage actually discharged from, the premises.

(3) In this clause,
'pre-treatment device' means any device used to reduce or eliminate contaminants in trade waste, or to alter the waste's nature, before it is discharged into a sewer.

Table B1. SCHEDULE 12—Penalty notice offences

Offence under Local Government Act 1993	Penalty
Section 626 (3)-carry out without prior approval of council an activity specified in item 4 of Part C (Management of waste) of the Table to section 68	$330
Section 627 (3)-having obtained council's approval to the carrying out of an activity specified in item 4 of Part C (Management of waste) of the Table to section 68, carry out the activity otherwise than in accordance with the terms of that approval	$330

B2 Water Management (General) Regulation 2018

The following are direct quotes from the relevant sections of the Regulation.

Subdivision 3 Discharges into sewerage systems

146 Definitions

In this Subdivision:

- ***approved discharge policy**, in relation to a water supply authority, means a policy with respect to the discharge of substances into the water supply authority's sewerage system that is approved by the Minister under clause 147.*
- ***discharge approval** means an approval for the discharge of a substance into a water supply authority's sewerage system.*

147 Discharge policies

(1) A water supply authority may apply to the Minister for approval of a policy with respect to the discharge of substances into its sewerage system.

(2) The Minister may approve a policy in the form in which it has been submitted for approval, may approve the policy with specified modifications or may refuse to approve the policy.

(3) A policy is not to be approved under this clause unless it contains provisions with respect to each of the following matters:

(a) the classification of different categories of substances, including:

(i) categories of exempt substances for which no discharge approval is required, and

(ii) categories of prohibited substances for which no discharge approval is to be granted,

(b) the procedures to be followed by a water supply authority in dealing with an application for a discharge approval, including the matters to be taken into consideration by the water supply authority when dealing with such an application,

(c) the conditions to be met in relation to discharge approvals, including (in particular) conditions as to the concentration limits of substances to be discharged,

(d) the charging methods to be applied with respect to discharges,

(e) such other matters as the Minister may determine.

(4) A water supply authority must not issue a discharge approval under this Subdivision otherwise than in accordance with a discharge policy approved under this clause.

Appendix C
Samples of liquid trade waste application forms

This section gives samples of the following forms:

C1 Liquid trade waste application form

C2 Stand-alone commercial retail food preparation business application attachment sheet

C3 Mechanical repairer application attachment sheet

C4 Laboratory application attachment sheet

C5 Animal wash application attachment sheet

C6 Tankered human waste, pan waste, ship-to-shore pump-out waste, and dump point application attachment sheet

C1 Liquid trade waste application form

_____ Council

Council to advise applicant which pages are to be filled:

- for discharges in Classification A—pages 1 to 3, sign page 11 and relevant forms C2 – C5
- for discharges in Classification S—pages 1 to 3, form C6 and sign page 11
- for discharges in Classification B and C—all pages

1. Business trading name: _____
2. Site address: No. _____ Street _____

   Town/Suburb _____ Postcode _____

   Property description: Lot _____ Section _____ DP _____
3. Property owner's name: _____

   Telephone: BH _____ AH _____
4. Property owner's address: _____
5. Applicant's name (if different to the owner):

   Telephone: BH _____ AH _____

   Applicant's address: _____
6. Occupier's name (if different to the owner):

   Telephone: BH _____ AH _____
7. Normal hours of business: _____

   Monday to Friday: _____ to _____

   Saturday: _____ to _____

   Sunday: _____ to _____
8. Type of business:

   Commercial retail food preparation activities—please fill out and attach Form C2

   Other commercial activities—please fill out and attach as appropriate from Forms C3 to C5
9. Description of flow:

   Maximum rate of discharge to sewer _____ kL/h or L/s

   Maximum daily discharge to sewer _____ kL

Form C1 (Page 2)

10. Any water supply meter being installed? ☐ Yes ☐ No

11. Existing/proposed equipment (grease arrestor, dry basket arrestor, cooling pit, etc.):

    Type _____

    Capacity/flow rate _____

12. Proposed cleaning schedule of pre-treatment equipment and names of contractors used:

Table C1–1. Proposed cleaning details of pre-treatment equipment

Type of equipment and/or waste	Frequency of cleaning	Contractor name and licence No.	Contractor contact No.	Disposal facility and contact No. (if applicable)
☐				
☐				
☐				
☐				

13. Location of the sampling point: _____

14. Plans—application to be accompanied by plan/s showing:

- details of activities and pre-treatment equipment, including capacities and location associated with the generation of liquid waste
- details, location, capacity/dimensions, proposed pre-treatment facilities
- drainage diagram, where available
- proposed connection point to the sewerage system
- location of a sampling point
- stormwater drainage plan.

Form C1 (Page 3)

The following substances are prohibited from being discharged to the sewerage system:

- organochlorine weedicides, fungicides, pesticides, herbicides and substances of a similar nature and/or wastes arising from the preparation of these substances
- organophosphorus pesticides and/or waste arising from the preparation of these substances
- Per- and poly-fluoroalkyl substances (PFAS)
- any substances liable to produce noxious or poisonous vapours in the sewerage system
- organic solvents and mineral oil[41]
- any flammable or explosive substances[41]
- discharges from 'bulk fuel depots'
- discharges from chemicals and/oil storage areas
- natural or synthetic resins, plastic monomers, synthetic adhesives, rubber and plastic emulsions
- roof, rain, surface, seepage or ground water, unless specifically permitted (clause 137A of the Local Government (General) Regulation 2005)
- solid matter[41]
- disposable products including wet wipes, cleaning wipes, colostomy bags, cat litter and other products marketed as flushable
- any substance assessed as not suitable to be discharged to the sewerage system
- waste liquids that contain pollutants at concentrations which inhibit the sewage treatment process—refer *Australian Sewage Quality Management Guidelines*, June 2012, WSAA
- any other substances listed in a relevant regulation.

41 In excess of the approved limit.

Form C1 (Page 4)

Please include all details as requested (if insufficient space attach as clearly labelled appendices), and make sure you read the section on substances that must not be discharged to the sewerage system.

15. Type of business: _____

16. Name of processes generating liquid trade waste:

    a. _____

    b. _____

    c. _____

    d. _____

    e. _____

    f. _____

17. Type and quantity of raw materials processed: _____

18. Description of liquid waste proposed to be discharged:

    - list of all expected pollutants including substances contained in wash down detergents, boiler and cooling water and other sources
    - expected maximum and average concentrations of pollutants
    - sample analysis results of the proposed waste.

Note:
The sample analysis tests must be carried out by a NATA approved laboratory with accreditation for analysis of the nominated pollutants in the application or a laboratory acceptable to council and the Department of Planning, Industry and Environment.

Acceptable means of sample analysis data collection:

- sample analysis results from a similar existing process
- samples collected from a trial pre-treatment plant
- equipment manufacturer's or consultant's advice on expected quality

Attach details and supporting documentation of data collection method.

When detailing the nominated pollutants where there is no possibility of discharge to the sewerage system because none of the substance is stored or used at the premises, write 'NIL'.

Form C1 (Page 5)

(Council may add to this list as required)

Table C1–2. General acceptance limits+

Parameter	Acceptance limits (mg/L)	Average (mg/L)	Maximum (mg/L)
BOD_5	Normally, approved at 300 mg/L. Concentrations up to 600 mg/L may be accepted.		
Suspended solids	Normally, approved at 300 mg/L. Concentrations up to 600 mg/L may be accepted.		
COD	Normally, not to exceed BOD_5 by more than three times. This ratio is given as a guide only to prevent the discharge of non-biodegradable waste.		
Total dissolved solids	Up to 4,000 mg/L may be accepted. The acceptance limit may vary depending on the effluent disposal option and is subject to a mass load limit.		
Temperature	Less than 38°C.		
pH	Within the range 7.0 to 9.0.		
Oil and grease	100 mg/L if the volume of the discharge does not exceed 10% of the design capacity of the treatment works, and 50 mg/L if the volume is greater than 10%.		
Detergents	All detergents are to be biodegradable. A limit on the concentration of 50 mg/L (as MBAS) may be imposed on large liquid trade wastes discharges.		
Colour	Colour must be biodegradable. No visible colour when diluted to the equivalent dilution afforded by domestic sewage flow. Specific limits may be imposed on industrial discharges where colour has a potential to interfere with sewage treatment processes and the effluent management.		
Radioactive substances	If expected to be present (e.g. Iodine 131 from ablation), acceptance requirements will be set on a case-by-case assessment.		

\+ Council may vary the acceptance limits having regard to the discharge characteristics and capacity of its sewerage system.

Form C1 (Page 6)

Table C1–3. Acceptance limits for inorganic compounds+

Parameter	Acceptance limits (mg/L)	Average (mg/L)	Maximum (mg/L)
Ammonia (as N)	50		
Boron	5		
Bromine	5		
Chlorine	10		
Cyanide	1		
Fluoride	30		
Nitrogen (Total Kjeldahl)	100		
Phosphorus (total)	20		
Sulphate (as SO_4)	500		
Sulphide (as S)	1		

\+ Council may vary the acceptance limits having regard to the discharge characteristics and capacity of its sewerage system.

Table C1–4. Acceptance limits for organic compounds+

Parameter	Acceptance limits (mg/L)	Average (mg/L)	Maximum (mg/L)
Benzene	< 0.001		
Toluene	0.5		
Ethyl benzene	1		
Xylene	1		
Formaldehyde	30*		
Phenolic compounds non-halogenated	1		
Total recoverable hydrocarbons C_6–C_9 (flammable) Total	 5 30		
Pesticides (general)	0.1		
Pesticides (organophosphates)	Nil		
Pesticides (organochlorines)	Nil		
PFAS	Nil		
Polynuclear Aromatic Hydrocarbons (PAH)	5		

\+ Council may vary the acceptance limits having regard to the discharge characteristics and capacity of its sewerage system.

* Acceptance of chemical toilet waste which contains formaldehyde will be assessed on the available dilution in the sewerage system.

Form C1 (Page 7)

Table C1–5. Acceptance limits for metals+

Parameter	Acceptance limits (mg/L)	Allowed daily mass limit (g/d)	Average (mg/L)	Maximum (mg/L)
Aluminium	100	–		
Arsenic	0.5	2		
Cadmium	1	5		
Chromium*	3	10		
Cobalt	5	15		
Copper	5	15		
Iron	100	–		
Lead	1	5		
Manganese	10	30		
Mercury	0.01	0.05		
Molybdenum	5	15		
Nickel	1	5		
Selenium	1	5		
Silver	2	5		
Tin	5	15		
Zinc	1	5		
Total heavy metals excluding aluminium, iron and manganese	**Less than 30 mg/L and subject to total mass loading requirements**			

\+ Council may vary the acceptance limits having regard to the discharge characteristics and capacity of its sewerage system. For small discharges, a daily mass load criteria may be used other than the concentration limit. An upper daily mass load can be applied to a large liquid trade waste discharge in addition to the concentration limit.

* Where hexavalent chromium (Cr^{6+}) is present in the process water, pre-treatment will be required to reduce it to the trivalent state (Cr^{3+}), prior to discharge into the sewer. Discharge of hexavalent chromium (Cr^{6+}) from chromate compounds used as corrosion inhibitors in cooling towers is not permitted.

Note:
Limits for substances not listed in the above tables will be determined on a case-by-case basis. If a substance is expected to be present in wastewater but not listed in the above tables, please list the substance and expected maximum concentration in wastewater.

19. Liquid wastes not discharged to the sewerage system including waste from maintenance of pre-treatment equipment:

    Details of management arrangement for all waste streams/wastes that are not permitted or not intended to be discharged to the sewerage system including details below.

Form C1 (Page 8)

Table C1–6. Details of management arrangement for all waste streams/wastes that are not permitted

Type of liquid waste and/or process generating the above waste	Quantity	Storage method and location	Disposal arrangement including frequency*	Liquid waste transporter name, licence and contact No. (if applicable)	Name and contact No. of the waste disposal facility (if applicable)
☐					
☐					
☐					
☐					

* Provide a copy of agreement between the proponent and each transport contractor.

20. Description of flow:

The maximum daily and instantaneous rate of discharge (kL/h or L/s) will be set on the available capacity of the sewer. Large dischargers are required to provide a balancing tank to even out the load on the sewage treatment works.

Hours of days during which discharge will normally take place:

Monday–Friday: am_____ pm_____

Saturday: am_____ pm_____

Sunday: am_____ pm_____

When are the peak periods of discharge during the day:_____

Type of discharge:

☐ Batch flow

☐ Intermittent flow

☐ Continuous flow

21. Where the applicant considers there are special circumstances applicable to their discharge, these circumstances should be identified, for example:

- seasonal discharges
- large differences between average and maximum daily loads
- variations to flow, which avoid peak domestic flows, etc.
- retention of discharges for extended periods.

Comments _____

_____

Form C1 (Page 9)

22. Open areas (please attach stormwater drainage plan for the site):

    Does the proposed installation contain open areas that will drain to the sewerage system?

    ☐ Yes

    ☐ No

    If 'Yes', give details:

    _____

    _____

    Stormwater is prohibited from being discharged into council's sewerage system. The capacity for such flows is not provided in the sewerage system. Therefore, council does not generally accept the discharge of stormwater to the sewerage system.

    The discharge of limited quantities of first-flush stormwater from sealed areas will be considered where roofing cannot be provided because of safety or other important considerations.

    Please provide the following information:

    - reasons why the area cannot be roofed (fully or partially) and bunded to exclude stormwater
    - the dimensions and a plan of the area under consideration
    - whether the open area is sealed
    - the estimated volume of the stormwater discharge
    - information on rain gauging
    - information on a first-flush system if proposed
    - measures proposed for diverting stormwater away from the liquid trade waste generating area
    - report on other stormwater management options considered and why they are not feasible.

23. Water supply source:

    - bore/groundwater/on-site dam/watercourse
    - recycled/reuse water
    - town water
    - any water supply meter being installed.

    Comments _____

24. Sampling point location _____

25. Flow measurement location and type of flowmeter (Attach details of flow measurement installed/proposed)

    _____

    _____

    If separate waste meters (or check meters) are installed to activity areas, please list them with the location.

Form C1 (Page 10)

26. Existing/proposed waste treatment and equipment:

Plans—application to be accompanied by copies of plans showing:

- details and location of all processes, tanks, pits and apparatus associated with the generation of industrial waste
- details of the proposed liquid waste treatment processes
- details of pipes, floor drainage used to convey the effluent
- a full schematic layout of the proposed/existing waste pre-treatment facilities for liquid trade waste prior to discharge to the sewerage system
- flow diagram and hydraulic profile of proposed treatment apparatus
- capacity/dimensions, material of construction and lining, operation and maintenance of all pits, tanks, dosing systems, pumps, etc.
- details of the integrity of the pH correction system (diversion system, recording, alarms—location, failsafe, tamperproof)
- any additional details as requested by council.

27. Details of the chemicals to be used on-site:

Table C1–7. Details of the chemicals to be used on-site

Substance	Quantity	Storage liquid/ solid	Location	Bunding

Note:
Attach Safety Data Sheets prepared in accordance with the state and national requirements for chemicals to be used and likely to be contained in the waste effluent. Refer to Code of Practice: Preparation of Safety Data Sheets for Hazardous Chemicals, Safe Work Australia 2018.

28. Any proposed plans for future expansion?

☐ Yes

☐ No

If 'Yes', give details on a separate attachment.

Form C1 (Page 11)

The applicant needs to be aware that approval of this application does not constitute a guarantee of any future approval of a variation to the approval. This will be dependent on the available capacity of the sewerage system at that time and any future approval must not be assumed.

However, alerting council to the applicant's future plans and proposals may assist council in planning future sewage management and/or infrastructure additions/modifications.

29. Supporting documentation:

- Please attach any relevant supporting documentation, such as:
  - environmental impact statement
  - consultant's report
  - Environment Protection Authority considerations/restrictions.

Signature of owner/s _____ Date ____/____/____

(Owner's authorisation to making the application is mandatory as per s. 78 of the *Local Government Act 1993*)

Note:
The owner of the property will be billed for water supply, sewerage and liquid trade waste services provided and it is the owner's responsibility to pay such fees and charges within the period specified. The owner may arrange to recover such fees and charges through the lease arrangement between the owner and the occupier.

Signature of occupier/applicant _____ Date ____/____/____

Position in company _____

Office use only

Application date received _____

Site visit conducted _____

Application _____ approved/refused

Issue of _____

Approval No. _____

Commencement of discharge _____ Officer in charge _____

Sewage treatment works details

_____ Sewage treatment works

_____ Design capacity (EP)

_____ Actual Capacity (EP)

C2 Stand-alone commercial retail food preparation business application attachment sheet

Fill out this form if your business is involved in commercial food preparation activities that discharge liquid trade waste to the sewerage system. In the table below, tick the type of your business and write the number of seats or beds (if any). In Table C2–2, provide the manufacturer's peak flow rate where available.

Table C2–1. Business information

Tick	Type of business	No. of seats/beds (if applicable)
	Bakery (only bread baked on-site)	
	Bakery (food cooked on premises) or with coffee shop	
	Bistro/coffee shop/sandwich shop (no hot food cooked or served)	
	Bistro/café/coffee shop/restaurant (hot food cooked and served)*#	
	Boarding house/hostel kitchen	
	Butcher	
	Cafeteria/canteen (no hot food prepared)	
	Club*#	
	Commercial kitchen/caterer*#	
	Community hall kitchen/function centre—minimal hot food cooked	
	Community hall kitchen/function centre—hot food cooked and served	
	Chicken/poultry shop—barbeque/charcoal/steam oven	
	Chicken—retail fresh outlet, no meals prepared	
	Day care centre/school canteen (minimal hot food)	
	Day care centre—hot food prepared	
	Delicatessen—no hot food prepared or served	
	Delicatessen—hot food prepared or served*	
	Fast food outlet	
	Fish shop—fresh (retail) no cooking on-site*	
	Fish shop—cooking on-site*	
	Fruit and vegetable shop (retail)*/loading dock	
	Garbage bin cleaning—within commercial premises, i.e. Hotel/restaurant	
	Hotel/motel with minimal or no hot food prepared and served*#	
	Hotel/motel with hot food*#	

Tick	Type of business	No. of seats/beds (if applicable)
	Ice cream parlour	
	Ice cream parlour with hot food	
	Juice bar/nut shop	
	Mobile food van	
	Mixed business (minimal or no hot food prepared)	
	Night club*#	
	Nursing home kitchen*	
	Pizzeria	
	Takeaway only	
	Pizza reheating (no preparation and limited washing up on-site)	
	School canteen/home science—hot food cooking	
	Supermarket*—incorporating butcher, fish, barbeque chicken, delicatessen, bakery	
	Takeaway—no hot food	
	Takeaway—hot food cooked and served	

Table C2–2. Information about fixtures/appliances installed in the kitchen

Fixture/appliance	Number	Manufacturer's flow rate L/h (if available) or capacity
Bain marie		capacity of apparatus
Bratt pan		
Cleaners sink		N/A
Combi-oven/barbeque		
Commercial dishwasher (door or hood)		
Commercial dishwasher (conveyor)		
Floor waste outlets		N/A
Glass washer (if connected to a grease arrestor)		
Hand basin		N/A
Hot plate/charcoal barbeque		
Pasta cooker		N/A
Potato peeler (if connected to a grease arrestor)		
Pot sink		N/A
Sink – single		N/A
Sink – double		N/A
Steam cooker		N/A
Wok – traditional wok		N/A
Wok – waterless wok		N/A
Under bench dishwasher		
Other fixtures that generate liquid trade waste *Please specify and include the expected hourly flow rate*		

Some of the above premises (highlighted with *) may have associated processes generating liquid trade waste. Please indicate if your premises have any of the following processes:

* Solid food waste disposal unit (food waste composter/digester etc.)

☐ Yes

☐ No

Microbrewery, micro distillery, confectionery/chocolate making, condiments making or other 'boutique/artisan food type' industry

☐ Yes

☐ No

If 'yes', please specify the type of business and fill the application form for Concurrence Classification B (pages 4–10).

When finished, attach these sheets to the application form (Form C1).

C3 Mechanical repairer application attachment sheet

Please fill out this attachment sheet if your business is involved in mechanical repair processes (and other services related to automotive/engineering processes) that discharge liquid trade waste to the sewerage system. In the lists below, tick the 'business type' or 'processes' that best describe what your business does. Note that there is an additional list at the end for 'associated processes', such as takeaway food at a service station.

When finished, attached this sheet to the application form (Form C1).

Business type

Please describe activities carried out on the premises, for example mechanical repairs, car detailer, construction equipment repair/maintenance, bus/coach/transport depot, etc.

☐ service station forecourt (existing connection)

☐ garbage truck washing

☐ other trucks washing (external)

☐ vehicle washing (external)

☐ internal washing of vans/tankers

☐ identify type of goods transported by the above

☐ non-commercial vehicle washing

☐ open area associated with the above washing (applicant must provide reasons why roofing is not possible, and must include the details of a first-flush system)

☐ other, please specify _____

Mechanical workshop

☐ vehicle repairs

☐ automobile dismantling (i.e. motor wrecker)

☐ engine/gearbox reconditioning

☐ panel beating

☐ radiator repairs

☐ other, please specify _____

Associated activities/businesses

In addition to the above, do you have any of the following activities carried out on the premises?

☐ café/restaurant*

☐ takeaway food bar*

☐ service station forecourt food caravan(s)*

☐ boiler blowdown (steam supply for internal washing of tankers)

☐ portable toilet disposal (for intercity coaches/buses)

☐ animal washing

☐ other liquid trade waste generating process, please specify _____

C4 Laboratory application attachment sheet

Please fill out this attachment sheet if your business has a laboratory that discharges liquid trade waste to the sewerage system. In the list below, tick the 'business type' that best describes your business.

When finished, attach this sheet to the application form (Form C1).

Business type

☐ agricultural research including herbicides/pesticides laboratory

☐ analytical laboratory

☐ animal health laboratory

☐ pathology laboratory

☐ school science laboratory

☐ tertiary institution laboratory (please specify) _____

☐ workplace laboratory (please specify) _____

☐ other, please specify _____

C5 Animal wash application attachment sheet

Please fill out this form if your business involves animal washing processes that discharge liquid trade waste to the sewerage system. In the list below, tick the 'business type' that best describes what your business does, and also tick any 'associated processes' that are relevant to your business.

When finished, attach this sheet to the application form (Form C1).

Business type

☐ mobile animal wash

☐ dog/animal pound

☐ boarding kennels

☐ stables

☐ racecourse

☐ veterinary surgery

☐ pet shop

☐ other – please specify _____

Does your business include any of the following associated activities/business types?

☐ autopsies performed

☐ animal health laboratory

☐ café/restaurant/takeaway

☐ open areas (please indicate area size)

Please specify:

☐ details of disposal arrangement of animal droppings and/or litter

_____

_____

☐ details of disposal arrangements of diseased animals

_____

Please indicate if your premises have or planning to have any of the following fixtures/processes:

Animal waste disposal unit

☐ Yes

☐ No

Alkaline hydrolysis process

☐ Yes

☐ No

Note:
Where full roofing is not provided, the application must be referred to the Department of Planning, Industry and Environment for concurrence.

C6 Tankered human waste, pan waste, ship-to-shore pump-out waste, and dump point application attachment sheet

This form is to be used by businesses that wish to discharge Concurrence Classification S liquid trade wastes to the sewerage system. Please include all details as requested (if insufficient space, attach clearly labelled appendices), and make sure you read the section on substances that must not be discharged to the sewerage system.

1. Type of waste

   Septic tank waste

   ☐ septic tank effluent

   ☐ septage

   Ablution block waste

   ☐ blackwater

   ☐ greywater

   Pan content waste

   ☐ caravan park/mobile homes

   ☐ portable/chemical toilet (building/event sites/bus/train)

   ☐ night soil

   ☐ pit toilets in remote area

   ☐ composting toilet waste **(not permitted)**

   Pump-out from boat/marinas

   ☐ liquid galley waste

   ☐ toilet waste

   ☐ dock cleaning waste

   ☐ floating restaurants—list the seating capacity

   ☐ other type of human waste—please list _____

2. Hours of days during which discharge will normally take place:

   Monday–Friday: am _____ pm _____

   Saturday/Sunday: am _____ pm _____

3. Odour control measures if applicable:

   _____

4. Odour inhibiting and other chemicals used (Safety Data Sheets must be provided):

   Name of chemical added _____

   Dosage rate _____

5. Proposed method of waste volume measurement:

_____

6. Proposed method of discharge including plans and drawings if appropriate:

_____

7. Information on a disposal point, site plan and drawings if applicable:

_____

8. Open Areas (Please attach stormwater drainage plan for the site):

   Does the proposed installation contain open areas that will drain to the sewerage system?

   ☐ Yes

   ☐ No

   If 'Yes', give details: _____

   _____

   Stormwater is prohibited from being discharged into council's sewerage system.

   Measures to prevent stormwater ingress at the proposed dump point:

   _____

   _____

9. Measures to prevent grease trap waste and/or any other liquid waste being mixed with septic tank waste (or other human waste):

   _____

   _____

   _____

   Grease trap waste and any other unauthorised waste are not permitted to be discharged to the sewerage system.

   Please attach a statement that septic tank waste and/or other human waste will not be mixed with grease trap pump-out waste and/or any other unauthorised waste.

10. List all other liquid waste collected by your business including disposal arrangement (list EPA Licence number where applicable):

    _____

    _____

    _____

    _____

11. Security arrangements at the proposed disposal point, if applicable:

    (What measures will be in place to prevent unauthorised discharge of waste to the sewerage system)

    _____

    _____

12. For boat/marina facility

    Is kitchen waste from floating restaurants discharged to your facility?

    ☐ Yes

    ☐ No

    If 'Yes', do floating restaurants have on-board arrangements to pre-treat galley waste?

    If 'No', what measures are taken to minimise the effect of greasy/oily waste on the pump-out facility and/or sewerage system?

    Please specify:

    Number of vessels that may utilise the pump-out facility

    ☐ Commercial

    ☐ Private

    Bilge water is not permitted to be discharged to the sewerage system.

Appendix D
Deemed to be approved discharges

The list of discharges that council may consider including in its liquid trade waste approval policy under 'Part 1, Exemptions' are provided in Table D1. These discharges are known as 'deemed to be approved' and if listed in the council's policy, the dischargers do not need to apply to council for approval. Each discharger must meet the standard requirements specified in the table.

Note:
Council can select all, none or only a few of these discharges as 'deemed to be approved'. However, councils are not permitted to add new discharges to this list.

Refer to s. 3.3.3 for further information.

Table D1. Discharges deemed to be approved

Activity-generating waste	Requirements
Beautician	Solvents not to be discharged to sewer
Bed and Breakfast (not more than 10 persons including proprietor)	Sink strainers in food preparation areas Housekeeping practices (see Note 4)
Cooling tower < 500 L/h	No chromium-based products to be discharged to the sewer
Crafts ceramic, pottery, etc. (including hobby clubs)—flows < 200 L/d	Nil
Crafts ceramic, pottery, etc. (including hobby clubs)—flows 200–1,000 L/d	Plaster arrestor required
Day care centre (no hot food prepared)	Sink strainers in food preparation areas Housekeeping practices (see Note 4) Nappies, wet wipes are not to be flushed into the toilet
Delicatessen (no hot food prepared)	Sink strainers in food preparation areas Housekeeping practices (see Note 4)
Dental technician	Plaster arrestor required
Dental mobile (no amalgam waste)	Nil
Dog/cat grooming/animal wash only	Dry basket arrestor for floor waste outlet and sink strainer/ hair trap required (see Note 3) Animal litter and any disposable waste products must not be discharged to sewer Organophosphorus pesticides are prohibited to be discharged to sewer
Florist	Dry basket arrestor for floor waste outlet and sink strainer required Herbicides/pesticides are not permitted to be discharged to sewer
Fruit and vegetable—retail	Dry basket arrestor for floor waste outlet and sink strainer required (see Note 3)

Activity-generating waste	Requirements
Hairdressing	Dry basket arrestor for floor waste outlet and sink strainer/ hair trap
Jewellery shop —miniplater	Miniplater vessel to contain no more than 1.5 L of precious metal solution
—ultrasonic washing	Nil
—precious stone cutting	If : < 1,000 L/d plaster arrestor required > 1,000 L/d general-purpose pit required
Medical centre/doctor's surgery/ physiotherapy (plaster casts only)	Plaster arrestor required, if plaster of paris casts are used
Mixed business (minimal hot food)	Dry basket arrestor for floor waste outlet and sink strainer required (see Note 3) Housekeeping practices (see Note 4)
Mobile cleaning units —carpet cleaning	20 micron filtration system fitted to a mobile unit
—garbage bin washing	Dry basket arrestor for floor waste outlet is required. Discharge via grease arrestor (if available)
Motel (no hot food prepared and no laundry facility)	Dry basket arrestor for floor waste outlet and sink strainer required (see Note 3) Housekeeping practices (see Note 4)
Nut shop	Dry basket arrestor for floor waste outlet and sink strainer required (see Note 3)
Optical service—retail	Solids settlement tank/pit required
Pet shop—retail	Dry basket arrestor for floor waste outlet and sink strainer required (see Note 2) Animal litter and any disposable waste products must not be discharged to sewer Organophosphorus pesticides are prohibited to be discharged to sewer
Pizza reheating for home delivery	Housekeeping practices (see Note 4)
Venetian blind cleaning	Nil (see Note 2)

Notes:

1. Where the term 'required' is used, it means as required by council.
2. If the activity is conducted outdoors, the work area must be roofed and bunded to prevent stormwater ingress into the sewerage system.
3. Dry basket arrestors must be provided for all floor waste outlets.
4. Use of a food waste disposal unit (garbage grinders) and/or a food waste processing unit (food digesters, composters, etc.) is not permitted. Food preparation activities need to comply with sound housekeeping practices including:
   a. dry sweeping floors before washing
   b. scraping all utensils, plates, bowls etc. into a waste bin before washing up.

Appendix E
General conditions of approval

Note:
The term 'Department' listed here, including under the 'Reasons' refers to the state agency responsible for granting concurrence to Council's approval to discharge liquid trade waste to Council's sewerage system (under Clause 28 of the Local Government (General) Regulation 2005). Currently, it is the Department of Planning, Industry and Environment, Water Utilities Branch.

Name and business address of Applicant: _____

Type of Business: _____

_____ (The Applicant) has applied to council to discharge liquid trade waste from the premises to council's sewerage system. Council has granted approval subject to the conditions set out below:

1. a. The Applicant must comply with all applicable Acts, Regulations, by-laws, proclamations and orders and with any lawful direction or orders given by or for council or any other competent authority.

   (Reason: Requirement to comply with all applicable legislation)

   b. The work that will be carried out under this Approval must be implemented and operated in compliance with the *Work Health & Safety Act 2011*, Plumbing Code of Australia, Australian Standards AS3500 (Part 2, Sanitary Plumbing and Drainage) and council requirements.

   (Reason: Requirement for compliance with applicable standards and legislation)

   c. If a liquid trade waste agreement is applicable to this approval then this approval will commence from the date a liquid trade waste agreement is signed.

   (Reason: Requirement for legal considerations)

   d. Term of the Approval: _____

   Commencement date: _____

   Duration: _____

   (Reason: Pursuant to s. 103 of the Local Government Act)

   e. Hours during which discharge is permitted:

   Monday to Friday _____ to _____

   Saturday _____ to _____

   Sunday _____ to _____

   (Reason: Department and council requirement to ensure acceptance capacity of the sewerage system)

2. The maximum discharge must not exceed _____ kL/d

   (Reason: Requirement pursuant to clause 32 of the Local Government (General) Regulation 2005)

3. The temperature of the liquid trade waste must not exceed 38°C at any time.

   (Reason: Department and council requirement for protection of the sewerage system and safety of workers)

4. Detergent, if used, must be biodegradable.

   (Reason: Protection of the environment and to ensure treatability of the waste)

5. The composition of the liquid trade waste must comply with that approved. A new application must be made if the quantity, quality or the activity generating liquid trade waste is to be varied.

   (Reason: Requirement pursuant to clause 32 of the Local Government (General) Regulation 2005)

6. An inspection point suitable for taking representative samples must be provided immediately prior to the point where the liquid trade waste enters the sewerage system and/or mixes with domestic sewage from the premises.

   (Reason: Department and council requirement to permit sampling and compliance auditing of liquid trade waste)

7. If, in the opinion of council, the liquid trade waste being discharged does not comply with the conditions contained herewith or is adversely affecting the performance of the sewage treatment plant, the sewerage system, or the ecological system in the receiving waters, land or area receiving sewage treatment works effluent, the discharger must forthwith, on receipt of notice in writing from council to this effect, take remedial action by modifying the characteristics of the liquid trade waste, reducing the amount of the liquid trade waste or ceasing to discharge the liquid trade waste as directed by notice from council.

   (Reason: Department and council requirement for compliance with the conditions of approval, protection of the sewerage system and the environment)

8. Except as already provided for by the rest of the conditions contained in this approval, the following must not be included in the liquid trade waste:

   a. organochlorine weedicides, fungicides, pesticides, herbicides and substances of a similar nature and/or wastes arising from the preparation of these substances

   b. organophosphorus pesticides and/or waste arising from the preparation of these substances

   c. per- and poly-fluoroalkyl substances (PFAS)

   d. any substances liable to produce noxious or poisonous vapours in the sewerage system

   e. organic solvents and mineral oil*

   f. any flammable or explosive substances*

   g. discharges from chemicals and/or oil storage areas and ‘Bulk Fuel Depots’

   h. natural or synthetic resins, plastic monomers, synthetic adhesives, rubber and plastic emulsions

   i. roof, rain, surface, seepage or ground water, unless specifically permitted (clause 137A of the Local Government (General) Regulation 2005)

   j. solid matter*

   k. disposable products including wet wipes, cleaning wipes, colostomy bags, cat litter and any other products marketed as flushable

   l. any substance assessed as not suitable to be discharged to the sewerage system

m. liquid waste that contain pollutants at concentrations which inhibit the sewage treatment process—refer *Australian Sewage Quality Management Guidelines*, June 2012, WSAA

n. any other substances listed in a relevant regulation.

** Above the approved limit*

(Reason: Statutory provision in Local Government Act s. 638. Also, the Department and council requirement for protection of the sewerage system, safety of workers and the environment)

9. Measures must be taken to prevent spillage of chemicals, oil and any other product used. Any spillages must be recovered/removed by dry cleaning methods and not be discharged into the sewerage system.

   (Reason: Department and council requirement to protect the sewerage system and worker health and safety)

10. The equipment for the treatment of the liquid trade waste and all fixtures are to be kept clean and maintained in an efficient condition to the satisfaction of council and must not be modified without the approval in writing of council.

    Safe and unrestricted access for maintenance and inspection of the pre-treatment equipment must be provided.

    (Reason: Department and council requirement to ensure compliance with the conditions of approval)

11. All liquid trade waste must pass through screens or a dry basket arrestor (where appropriate) before being discharged to the sewerage system.

    (Reason: Department and council requirement to limit loading on the sewerage system and pre-treatment system, if installed)

12. Floors are to be dry swept prior to washing or hosing.

    (Reason: Department and council requirement to limit pollutant loading on the sewerage system)

13. Utensils, plates, bowls, etc. are to be scraped into a waste bin prior to washing to minimise the amount of waste discharged to the sewerage system.

    (Reason: Department and council requirement to limit pollutant loading on the sewerage system)

14. Food waste disposal units (e.g. garbage grinders) or solid waste processing equipment that convert solid food waste to liquid (e.g. digesters or composters) are not allowed to be installed.

    (Reason: Department and council requirement to limit loading on the sewerage system)

15. All liquid trade waste must pass through an appropriately sized grease arrestor. Minimum capacity is ***<council to insert the required capacity, refer to Note below>***.

    (Reason: Department and council requirement to install pre-treatment system of sufficient capacity for the reduction of oil and grease levels in liquid trade waste)

    Note to council: Refer to Appendix F, 'Sizing of grease arrestor' for requirements.

16. The grease arrestor must be maintained regularly. The initial pump-out frequency to be set at every thirteen (13) weeks and may be reviewed, at any time by council.

    (Reason: Department and council requirement to ensure maximum effectiveness of the pre-treatment system)

17. Discrete cooking oil is not permitted to be discharged into the grease arrestor. Spent oil is to be collected by a licensed contractor for off-site management.

    (Reason: Department and council requirement to limit pollutant loading on the sewerage system)

18. The use of enzymes or biological additives in the grease arrestor to enhance its performance is not permitted, unless specifically approved.

    (Reason: Department and council requirement to limit pollutant loading on the sewerage system)

19. a. An oil collection container is to be placed underneath any meat barbequing/roasting equipment for the collection of oil and fat.

    b. For steam ovens used for poultry/pork roasting and connected to sewer, a fat/oil interceptor (acceptable to council and the department) must be installed upstream of an appropriately sized grease arrestor, unless the oven has an acceptable fat/oil separator built in within.

    (Reason: Department and council requirement to limit pollutant loading on the sewerage system)

20. All liquid trade waste must pass through a collection well ***<council to select: minimum capacity 300 L or for existing service station covered forecourt area nominal capacity 750L>***. A non-emulsifying pump with suction inlet at least 300 mm above the bottom of the collection well must be used to pump the waste to a prescribed mineral oil separator with an oil collection container and sludge withdrawal system. The oil separator must be sized according to the flow rate.

    (Reason: Department and council requirement to ensure maximum effectiveness of the oil arrestor and protection of the environment)

21. All above ground liquid trade waste pre-treatment systems must be contained in bunded areas (where appropriate) so that any leaks, spillages, and/or overflows cannot drain by gravity to the sewerage and/or stormwater systems. Wastewater collected within the bunded area must not be directly discharged into the sewerage systems without appropriate pre-treatment.

    (Reason: Department and council requirement for protection of the sewerage system and safety of workers and pursuant to s. 89 (3a) of the Local Government Act 1993 for protection of the environment)

22. Any substance which could adversely affect the sewerage system, the environment and the health and the safety of people must be stored in a roofed and bunded area with the bund having the capacity to retain 110% of the largest container. Substances accumulated in the bunded area must not be discharged into the sewerage system.

    Alternatively, other acceptable means preventing the discharge to the sewerage system/environment in case of accident, leakage or spills must be provided (e.g. a secondary containment).

    (Reason: Department and council requirement to protect the sewerage system and worker health and safety)

23. Only ‘quick break’ detergents must be used in the washing operation.

    (Reason: Department and council requirement to ensure maximum effectiveness of the pre-treatment system)

24. Oil-based materials, spent coolant, kerosene and solvents are to be recycled, where practical, or be collected and removed by a licenced contractor and not be discharged into the sewerage system.

    (Reason: Department and council requirement to prevent discharge of toxic substances into the sewer)

25. Fluids from all parts washers are required to be removed by a licensed contractor and not discharged to the sewerage system or the stormwater system.

    (Reason: Department and council requirement to prevent discharge of toxic substances into the sewer)

26. Wastewater from spray booth area must not be discharged to the sewerage system.

    (Reason: Department and council requirement to prevent discharge of toxic substances into the sewer)

27. The discharge of radiator coolant containing ethylene glycol to the sewerage system is not permitted.

    (Reason: Department and council requirement to prevent discharge of toxic substances into the sewer)

28. The collection pit must be checked for petroleum products on each occasion before starting the pump. The pump must not be started, if petroleum products are detected in the pit. In this case, the pit contents must be disposed of to an appropriate waste disposal facility and must not be discharged to the sewerage system.

    (Reason: Department and council requirement to protect the sewerage system, worker health and safety and the environment)

29. The liquid trade waste must pass through the plaster arrestor before being discharged into the sewerage system.

    (Reason: Department and council requirement to prevent blockages in the sewerage system)

30. Solid wastes such as, but not limited to, hypodermic needles, syringes, instruments, utensils, swabs, dressings, bandages, any paper and plastic items, disposable products marketed as flushable (e.g. wet wipes, cleaning wipes or any human tissues) are prohibited from discharge to the sewerage system.

    (Reason: Department and council requirement to prevent sewer blockages and protect worker health and safety)

31. Wastewater from the dental chair must pass through an amalgam trap. Waste collected in the trap must not be discharged to the sewerage system.

    (Reason: Department and council requirement to limit metal discharges to the sewerage system and the environment)

32. Autopsy tables must be drained through a flushing floor waste gully provided with an air break in the water supply. The gully must be fitted with a removable stainless steel strainer installed at the drainage outlet to collect hair and solids.

    (Reason: Compliance with AS3500 Plumbing and Drainage s. 11.6)

33. Floor drain in the body preparation room must be fitted with removable screens so as to prevent the discharge of any solid material into the sewerage system.

    (Reason: Pursuant to Schedule 2 of the Local Government (General) Regulation 2005)

34. Concentrated solutions of Formaldehyde, Glutaraldehyde or Ortho-phthalaldehyde (OPA) need to be neutralised with appropriate agents (refer to the safety data sheet) prior to disposal.

    A due diligence program for the prevention of the discharge of these chemicals to sewer is to be submitted to council within three months of council's approval.

    (Reason: Department and council requirement to protect the sewerage system)

35. The waste arising from alkaline hydrolysis process is not permitted to be discharged to the sewerage system.

    (Reason: Department and council requirement to limit loading on the sewerage system)

36. Infectious wastes must be sterilised in accordance with NSW Health regulations before being discharged into the sewerage system.

    (Reason: Department and council requirement to protect worker health and safety)

37. Biohazardous waste and unused/expired pharmaceutical drugs must be disposed in accordance with NSW Health regulations.

    (Reason: Department and council requirement to comply with applicable government legislation)

38. The silver bearing waste must be treated in a silver recovery unit.

    (Reason: Department and council requirement to limit metal discharges to the sewerage system and to protect aquatic environment)

39. Where a silver recovery unit is not provided, the silver bearing waste must be removed from the premises and not be discharged to the sewerage system.

    (Reason: Department and council requirement to limit metal discharges to the sewerage system and to protect aquatic environment)

40. Paint brushes are to be wiped before being washed.

    (Reason: Department and council requirement to limit pollutant loading to the sewerage system)

41. The discharge of liquid trade waste from the laboratory sinks must be followed by flushing with liberal quantities of water.

    (Reason: Department and council requirement to protect the sewerage system)

42. Concentrated acids, caustics, solvents and other concentrated solutions must not be discharged to the sewerage system.

    Chemical solutions containing small quantities of concentrated acids, caustic or other corrosive chemicals must be neutralised before discharge to the sewerage system.

    (Reason: Department and council requirement to protect the sewerage system and worker health and safety)

43. All liquid trade waste must pass through a balancing/dilution/neutralization tank before discharge to the sewerage system.

    (Reason: Department and council requirement to neutralise liquid waste and/or lower pollutant concentrations before discharge to the sewerage system)

44. All liquid trade waste must pass through a general-purpose pit sized according to the flow rate to give a one-hour minimum detention time before discharge to the sewerage system.

    (Reason: Department and council requirement to limit loading on the sewerage system)

45. All liquid trade waste must pass through a solid settlement pit sized according to the flow rate to give up to two hours detention time, before discharge to the sewerage system.

    (Reason: Department and council requirement to prevent the discharge of settleable solids to the sewerage system)

46. The wastewater must pass through a cooling pit before being discharged to the sewerage system. The pit must be sized to cool down the wastewater to 38°C or less.

    (Reason: Department and council requirement for protection of the sewerage system and safety of workers)

47. Lint screens with max. 2 mm aperture size must be provided (washing machine internal screens are acceptable).

    (Reason: Department and council requirement to prevent blockages in the sewerage system)

48. The discharge of dry-cleaning solvents into the sewer is not permitted. The dry-cleaning process and solvent storage areas must be bunded to prevent dry-cleaning solvent entering the sewerage system.

    (Reason: Department and council requirement to protect the sewerage system, worker health and safety and the environment)

49. Separator water from dry-cleaning equipment contaminated with dry-cleaning solution is to either treated adequately on-site prior to discharge to the sewerage system or collected by a licensed contractor for off-site management.

    (Reason: Department and council requirement to protect the sewerage system, worker health and safety and the environment)

50. The use of products containing chromate in boilers and/or cooling towers is not permitted.

    (Reason: Department and council requirement to protect the sewerage system and the environment)

51. Solid wastes including animal droppings and litter must not be disposed of to the sewerage system.

    (Reason: Department and council requirement to limit loading on the sewerage system and prevent sewer blockages)

52. Macerators or similar devices/equipment that grind or pulverise solid waste are not permitted to be connected to the sewerage system. (Solid waste includes, but is not limited to sanitary napkin, placenta, surgical waste, disposable nappy, mache bedpan/urine containers, food waste, disposable products and animal waste (dog/cat faeces, cat litter)).

    (Reason: Department and council requirement to limit loading on the sewerage system)

53. Measures are to be taken to prevent the contamination and ingress of stormwater into the sewerage system. Areas where stormwater may become contaminated must be bunded and roofed over.

    (Reason: Department and council requirement to prevent overflows and overloading of the sewerage system)

54. The pH of the liquid trade waste must be maintained within the range of 7.0 to 9.0 at all times.

    (Reason: Extremes of pH can adversely affect biological treatment processes and may cause the release of toxic gases in sewer. Low pH causes corrosion of sewer structures)

55. The suspended solids concentration must not exceed **<council to select: 300 mg/L or 600 mg/L>** at any time.

    (Reason: Department and council requirement to limit loading on the sewerage system)

56. The concentration of total oil and grease must not exceed 100 mg/L at any time.

    (Reason: Department and council requirement to prevent sewer blockages)

    Note to council: The limit of 100 mg/L is applicable, if the volume of the discharge does not exceed 10% of the design capacity of the sewage treatment works, and 50 mg/L if the volume is greater than 10%. This may not be applicable if council has adopted lower limits in its local approvals policy.

57. The biochemical oxygen demand (BOD_5) concentration must not exceed ***<council to select: 300 mg/L or 600 mg/L>*** at any time.

    (Reason: Department and council requirement to limit loading on the sewerage system)

58. The chemical oxygen demand (COD) must not exceed the BOD_5 concentration by more than three times.

    (Reason: Department and council requirement to prevent the discharge of non-biodegradable waste and to ensure treatability of the proposed liquid trade waste)

59. The concentration of the following substances must not exceed:

< Council to select from the following>

a. Ammonia (as N)	50 mg/L
b. Benzene	< 0.001 mg/L
c. Boron	5 mg/L
d. Bromine	5 mg/L
e. Chlorine	10 mg/L
f. Cyanide	1 mg/L
g. Detergent (as MBAS)	50 mg/L
h. Ethyl benzene	1 mg/L
i. Fluoride	30 mg/L
j. Formaldehyde	30 mg/L
k. Organochlorines	Nil
l. Organophosphorus pesticides	Nil
m. Total recoverable hydrocarbons (TRH)	30 mg/L
n. Flammable petroleum hydrocarbons	5 mg/L
o. Phenolic substances	1 mg/L
p. Pesticides (general)	0.1 mg/L
q. Polynuclear aromatic hydrocarbons	5 mg/L
r. Sulphate (as SO_4)	500 mg/L
s. Sulphide	1 mg/L
t. Toluene	0.5 mg/L
u. Total dissolved solids	4,000 mg/L
v. Total Kjeldahl nitrogen (as N)	100 mg/L
w. Total phosphorus (as P)	20 mg/L
x. Xylene	1 mg/L
y. Organic fluorine compounds PFO/PFAS	Nil

(Reason: Protection of the sewerage system and the environment)

Note to council: Contact the department in regard to limits for parameters not listed above.

60. The concentrations of metals must not exceed

<Council to select from the following>

a.	Aluminium	100 mg/L
b.	Arsenic	0.5 mg/L
c.	Cadmium	1 mg/L
d.	Cobalt	5 mg/L
e.	Copper	5 mg/L
f.	Chromium (total)	3 mg/L
g.	Iron	100 mg/L
h.	Lead	1 mg/L
i.	Manganese	10 mg/L
j.	Mercury	0.01 mg/L
k.	Molybdenum	5 mg/L
l.	Nickel	1 mg/L
m.	Selenium	1 mg/L
n.	Silver	2 mg/L
o.	Tin	5 mg/L
p.	Zinc	1 mg/L

(Reason: Protection of sewage treatment processes, the environment and to enhance beneficial reuse of biosolids and/or effluent)

61. The maximum instantaneous discharge rate not to exceed _____ L/s or L/h.

(Reason: Department and council requirement to prevent overflows and overloading of the sewerage system)

62. Flow measurement of the total discharge must be provided and the daily flow must be recorded.

(Reason: Department and council requirement to prevent overflows and overloading of the sewerage system)

63. The pH of the liquid trade waste must be checked and corrected, if necessary, before discharge to the sewerage system. The pH must be recorded and the records shall be kept. The pH probe must be maintained and calibrated in accordance with the manufacturer's recommendations. Calibration records are to be kept for the minimum period of **3 years** and made available to council on request.

(Reason: Extremes of pH can adversely affect biological treatment processes and may cause the release of toxic gases in sewer. Low pH causes corrosion of sewer structures)

64. No visible colour when the waste is diluted to the equivalent dilution afforded by domestic sewage flow. Colour must be biodegradable.

(Reason: Aesthetic impairment of receiving water. Impairment of light penetration through receiving water, affecting aquatic processes)

65. Representative samples of the effluent must be collected

<Council to select from the following or add to it as necessary>

(from each batch) or (every _____ kL) or (every _____ days) and tested with respect to

<Council to delete not applicable parameters>

Table E1. Parameters for sampling

General	Elements/compounds	Metals
pH	Boron	Aluminium
Temperature	Chlorine	Arsenic
Colour	Fluoride	Cadmium
BOD_5	Cyanide	Cobalt
COD	Organophosphate pesticides	Copper
Total suspended solids	Organochlorine pesticides	Chromium (total)
Total dissolved solids	General pesticides	Iron
Total oil and greases	Formaldehyde	Lead
Detergents (as MBAS)	Total recoverable hydrocarbons*	Manganese
–	Phenolic substances	Mercury
–	Polynuclear aromatic hydrocarbons	Molybdenum
–	Polychlorinated biphenyls	Nickel
–	Chlorinated phenolic substances	Selenium
–	Benzene, Toluene, Ethyl benzene, Xylene	Silver
–	PFO/PFAS	Tin
–	Ammonia as nitrogen	Zinc
–	Total Kjeldahl nitrogen (as N)	–
–	Total phosphorus (as P)	–
–	Sulphate	–
–	Sulphides	–

(Reason: Requirement pursuant to s. 89 (3a) of the Local Government Act 1993 and council requirement for protection of the environment, worker health and safety and to ensure treatability of the waste)

** Request the laboratory to carry out a silica gel clean-up for this test.*

Note to council: *Analysis for parameters other than those listed above may be required, if necessary.*

66. The sample analysis tests must be carried out only by laboratories that hold National Association of Testing Authorities (NATA) registration for the class of test(s) or specific test(s) specified in the liquid trade waste approval or by a laboratory acceptable to the department. Tests must be carried out by using analytical methods indicated in the *Australian Sewage Quality Management Guidelines*, June 2012, WSAA or other accredited methods acceptable to the department. The results of the chemical analysis are to be forwarded to council for review as soon as available from the laboratory. The analysis records are to be retained by the discharger for the minimum period of 3 years.

    (Reason: Department and council requirement to ensure the integrity of any sampling analysis results are not compromised and due diligence concerns are satisfied)

67. The site is to be attended at all times while the waste is discharged to the sewerage system.

    (Reason: Department and council requirement for due diligence to protect the integrity of the sewerage system)

68. Spent processing solutions and/or concentrated chemical bath solutions are not permitted to be discharged to the sewer. These solutions must be removed by a licensed waste transporter for off-site management.

    (Reason: Department and council requirement to protect the sewerage system and worker health and safety)

69. Wastes are not to be diluted with fresh water to achieve compliance with the acceptance criteria except with the expressed permission of council due to special circumstances.

    (Reason: Requirement pursuant to clauses 159 and 160 of the Local Government (General) Regulation 2005)

70. Solids and sludge resulting from treatment of the waste must be removed from the premises by a licensed contractor, where applicable.

    (Reason: Department and council requirement to protect the sewerage system and Environment Protection Authority requirement for waste disposal)

71. Bilge water and tidal water are not permitted into the sewerage system.

    (Reason: Department and council requirement to protect the sewerage system and the environment)

72. A log book must be kept detailing the following items ***<council to select from the list and/or add additional items as appropriate>***:

    a. the date and time of discharge
    b. volume discharged
    c. transporter name (and vehicle number if appropriate)
    d. pH reading
    e. whether odour problems occurred and contingency measures taken
    f. periodical sample analysis results, when conducted
    g. the date of service of pit/tank, if applicable.

    The log book is to be made available to council and the Department's officer upon request.

    (Reason: Department and council requirement to protect the sewerage system, environment and health and safety of workers)

73. A contingency plan and a due diligence program are to be submitted to council within three months and six months respectively of commencement of the approval from council.

    (Reason: Department and council requirement to ensure that adequate contingency measures are in place to address potentially hazardous situation)

74. The waste not permitted or not intended to be discharged to the sewerage system must be managed in environmentally sustainable manner. Records of such waste disposal must include the following:
    - name, location and contact details of the disposal facility
    - type of waste and volume transported
    - the date and time of transfer to the receival facility (if applicable)
    - transporter name (and vehicle number if appropriate).

    The records must be kept and made available to council and the Department's officer on request.

    (Reason: Department and council requirement to comply with applicable government legislation)

> **Note to council:** *Conditions 75 to 78 are applicable for swimming pools/spa/hydrotherapy units only, council to select the relevant conditions.*

75. The filter backwash water must be collected in a holding tank and then be discharged into the sewerage system at a controlled rate.

    (Reason: Department and council requirement to prevent overflows and overloading of the sewerage system)

76. The discharge is to be limited to low flow periods in the sewer, particularly when draining the pool for maintenance purposes.

    (Reason: Department and council requirement to prevent overflows and overloading of the sewerage system)

77. The discharger must notify council in advance, prior to commencement of draining the pool and agree with council the timetable for emptying.

    Draining the pool to the sewerage system during wet weather is not permitted.

    (Reason: Department and council requirement to prevent overflows and overloading of the sewerage system)

78. The discharger is required to provide council in advance with the details of cleaning compounds, if any, (including brand name, quantity and safety data sheet) intended to be used for cleaning of pool surfaces during maintenance.

    The wastewater arising from cleaning of pool surfaces by using strong detergents or acids must not be discharged into the sewerage system.

    (Reason: Department and council requirement to protect the sewerage system and worker health and safety)

> **Note to council:** *Conditions 79 to 84 are applicable for exceptions only, council to select the relevant conditions when processing exception requests. Conditions 79–82 are for grease arrestor related exemptions and 83–84 are for exemptions related to mineral oil separators.*

79. ***<Applicable to premises with undersized grease arrestor>*** The activity conducted by the Applicant would generally require the installation of a grease arrestor with minimum capacity ***<council to insert the capacity of the required grease arrestor>***, however, in this case approval to discharge the waste through the existing ***<council to insert the capacity>*** arrestor has been granted due to ***<council to insert the reason for exception>***.

    (Reason: Department and council requirement to limit pollutant loading to the sewerage system)

80. ***<Applicable to premises without a grease arrestor>*** The activity conducted by the Applicant would generally require the installation of a grease arrestor with minimum capacity ***<council to insert the capacity of the required grease arrestor>***, however, in this case exception from installing a grease arrestor has been granted due to ***<council to insert the reason for exception>***.

    (Reason: Department and council requirement to limit pollutant loading to the sewerage system)

81. If the type or size of a food preparation activity differs from that indicated in the Liquid Trade Waste Application Form or if renovation/refurbishment is carried out, then council will review the pre-treatment requirements.

    (Reason: Department and council requirement to limit pollutant loading to the sewerage system)

82. The grease arrestor must be maintained regularly. Initial pump-out frequency to be set at every ***<council to insert 4 to 8 weeks as appropriate>*** and may be reviewed, at any time by council.

    (Reason: Department and council requirement to ensure maximum effectiveness of the pre-treatment system)

83. The activity conducted by the Applicant would generally require the installation of a prescribed mineral oil separator with minimum capacity ***<council to insert the capacity of the required oil separator>***, however, in this case approval to discharge the waste through the existing oil interceptor pit with a minimum capacity of ***<council to insert the existing pit capacity>*** has been granted due to ***<council to insert the reason for exception>***.

    If the type or a size of an activity differs from that indicated in the Liquid Trade Waste Application Form or if renovation/refurbishment is carried out, then council will review the pre-treatment requirements.

    (Reason: Department and council requirement to limit pollutant loading to the sewerage system)

84. Representative samples of the effluent must be collected every 3 months and tested with respect to suspended solids, total oil and grease and total recoverable hydrocarbons.

    If the waste quality fails to meet the approved limits, then the discharger will be required to upgrade the pre-treatment equipment to the appropriately sized prescribed equipment.

    (Reason: Council requirement for protection of the sewerage system, environment and worker health and safety)

> **Note to council:** *Conditions 85 to 89 are applicable for discharges generated by poison bait preparation only.*

85. Only wastewater resulting from the washing of utensils used in the preparation of 1080, Pindone and Warfarin bait must be discharged into the sewerage system via a dilution pit.

    Wastewater arising from the following activities/areas are not permitted to be discharged into the sewerage system:

    - preparation of Bromakil baits or any other poison baits,
    - chemical storage area, floor-waste pits
    - cool room drainage.

    Any spills and leaks of chemicals must be removed by dry cleaning methods and not be discharged into the sewerage system.

    (Reason: Department and council requirement to protect the sewerage system and worker health and safety)

86. The hand wash basin in the bait preparation room must be connected to the dilution pit in order to provide adequate dilution.

(Reason: Department and council requirement to protect the sewerage system and worker health and safety)

87. Liberal quantities of water must be used for flushing during and after discharge.

(Reason: Department and council requirement to protect the sewerage system and worker health and safety)

88. The concentration of the following substances in the dilution tank must not exceed:

- Sodium fluoroacetate 1.0 mg/L
- Pindone 0.1 mg/L
- Warfarin 0.1 mg/L

Representative samples of the effluent to be collected twice a year and tested for the above substances.

(Reason: Department and council requirement to protect the sewerage system and worker health and safety)

89. The discharger is required to notify council in advance prior to the discharge, on each occasion.

(Reason: Department and council requirement to protect the sewerage system and worker health and safety)

Note to council: *Conditions 90 to 99 are applicable for Classification S dischargers: council to select relevant conditions.*

90. Septage (septic tank sludge) must be discharged directly into a sludge lagoon or at the ***<council to insert nominated discharge point>***.

(Reason: Department and council requirement to protect the sewage treatment processes)

91. The discharge of waste must be at the ***<council to insert nominated discharge point>***.

(Reason: Department and council requirement to protect the sewerage system and public amenity)

92. If odours occur due to the discharge, measures are to be taken to rectify this problem.

(Reason: Department and council requirement to protect health of public and workers and public amenity)

93. Grease trap pump-out or any other wastes must not be discharged with the waste into the sewerage system. To prevent contamination of the septic tank waste or accidental discharge of grease trap waste or other wastes into the sewerage system, a road tanker to be preferably dedicated to septic tank service only. If impractical, the road tanker is required to be washed out after the grease trap waste or other wastes are disposed off to an appropriate disposal facility.

(Reason: Department and council requirement to prevent dumping of unauthorised wastes into the sewerage system)

94. The discharge of the waste is to be carried out under the supervision of council employee, where practical.

(Reason: Department and council requirement to protect the integrity of the waste and security of the site)

95. Fresh water must be available for cleaning purposes.

(Reason: Department and council requirement to prevent odours)

96. The use of formaldehyde/glutaraldehyde based compounds is to be discouraged.

(Reason: Department and council requirement to protect health of public and workers and public amenity)

97. The pH of the waste discharged to council's sewerage system must be within the range of 6.5–9.5.

(Reason: Department and council requirement to protect the sewerage system, public and worker health and safety)

98. Measures are to be taken to prevent the discharge of unauthorised waste to the sewerage system.

(Reason: Department and council requirement to protect the sewerage system, public and worker health and safety and the environment)

99. A log book must be kept detailing the following items:

a. For liquid waste disposed at the council's sewage treatment works:

- the date and time of discharge
- type of waste and volume discharged
- pH reading
- whether odour problems occurred and contingency measures taken
- transporter name (and vehicle number if appropriate)
- each entry to be signed by the transporter.

b. For liquid waste transported to a waste disposal facility, other than the sewerage system

- the date, time and address of the disposal location
- type of waste and volume discharged
- transporter name (and vehicle number if appropriate)
- each entry to be signed by the receiver of the waste facility (if applicable).

The log book is to be made available to council and the Department's Water division officer upon request.

(Reason: Department and council requirement to protect the sewerage system, environment and health and safety of workers)

Note to council: *Conditions 100 to 104 are applicable for slipway: council to select relevant conditions.*

100. The discharge of organo tributyl tin products is not permitted.

(Reason: Department and council requirement to protect the sewerage system, public and worker health and safety and the environment)

101. The slipway is permitted to be used only during dry weather and when the collection strip drain is above the tidal range. Maintenance operations are not permitted during wet weather. The slipway must be kept clean when not in use.

(Reason: Department and council requirement to protect the sewerage system and the environment)

102. Following high pressure water blasting of the vessels, the slipway must be swept down before the application of any primer or paint.

(Reason: Department and council requirement to prevent discharge of toxic substances into the sewer and the environment)

103. In the event of any paint spillage on the slipway, the inlet to the holding tank must be capped and the paint cleaned up using a dry cleaning method. Any paint residue to be allowed to dry before any wet cleaning activities are undertaken on the slipway.

(Reason: Department and council requirement to protect the sewerage system, public and worker health and safety and the environment)

104. Engine or machinery degreasing is not permitted to take place on the slipway or hardstand area.

(Reason: Department and council requirement to protect the sewerage system, public and worker health and safety and the environment)

Note to council: *Conditions 105 and 106 are applicable for approved stormwater discharge only, council to select the relevant conditions.*

105. A first-flush system including a silt arrestor/solid settlement pit and a stormwater diversion system must be provided.

(Reason: Department and council requirement to prevent overflows and overloading of the sewerage system)

106. The first flush must be limited to the first 10 mm of storm run-off from the sealed and bunded area. The first-flush run-off to be collected in the holding tank and must not be discharged to the sewerage system via pre-treatment sooner than one hour after the cessation of rain (controlled by a suitable means such as rain gauging).

(Reason: Department and council requirement to prevent overloading of the sewerage system, but in some situations limited volume may be accepted under special circumstances)

Appendix F
Overview of common methods of liquid trade waste pre-treatment

Figures

Tables

F1 Introduction

Sewerage systems are generally designed to safely transport and treat domestic sewage. Council may accept the waste generated by commercial and industrial activities into the sewerage system as a service to business and industry, provided there is available capacity in the sewerage system and no adverse effect is caused by these wastes.

The decision to accept liquid trade waste to the sewerage system will be based on the discharge meeting council's requirements.

This appendix provides information on minimum pre-treatment requirements for the acceptance of liquid trade waste to the sewerage system. It also provides information on:

- potential problems caused by untreated liquid trade waste
- some types of pre-treatment equipment, installation and maintenance requirements
- sampling and flow measurement
- housekeeping practices and waste management
- liquid trade waste inspections
- liquid trade waste plumbing and drainage connections.

F2 Effects of untreated liquid trade waste on the sewerage system

Uncontrolled discharge of liquid trade waste into the sewerage system can cause serious problems to the sewerage infrastructure, environment and health and safety of workers and public. Some potential problems associated with the quality of liquid trade waste discharges are indicated below.

High biochemical oxygen demand:

- may accelerate the generation of sulphides in sewer mains and lead to odours and corrosion problems
- may overload treatment units at the sewage treatment works
- increases the operation cost of sewage treatment works
- may cause non-compliance with the sewage treatment works licence conditions.

Suspended solids:

- cause blockages and sewage overflows in the drains of commercial and industrial properties
- form deposits in the sewer, reducing its capacity and potentially leading to overflow conditions
- accumulate in wet wells and pumping stations resulting in increased maintenance
- may deteriorate mechanical equipment (pumps and valves) by abrasion
- may overload treatment units at the sewage treatment works.

Grease and oil:

- may cause overflows in the drains of commercial and industrial properties
- cause the formation of deposits of greasy solids in the sewage transportation system thereby reducing its 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
- accumulate on screens at treatment facilities causing blockages
- reduce the efficiency of sewage treatment processes
- may cause non-compliance of the sewage treatment works effluent with licence conditions
- may form an oily film in the receiving water.

Low or high pH:

- may cause injuries to people working in and around the sewerage system
- may cause corrosion of the sewer structure
- may upset biological treatment processes
- may cause the release of toxic gas; hydrogen sulphide in case of low pH and ammonia in case of high pH.

High temperature:

- encourages volatile materials to be driven off from the sewage into the atmosphere
- increases the rates of reaction within sewer mains resulting in consumption of oxygen and high levels of noxious gases, increasing odours
- promotes anaerobic conditions in sewer mains as the solubility of oxygen decreases with the increase of temperature
- may cause damage to sewers, including loss of strength of plastic components.

Heavy metals:

- may inhibit sewage treatment processes
- may limit the beneficial reuse of biosolids and effluent
- result in metal residuals being discharged with the sewage effluent that may pollute the environment, accumulate in marine organisms and move up the food chain.

Nutrients (the term ‘nutrients’ is used for substances necessary for the growth and reproduction of organisms, namely, nitrogen and phosphorus):

- if increased by a small amount, may cause nuisance algal growth in river systems. Algae consume the oxygen in water ways and therefore threaten fish and plant life. Some algae, like blue–green algal bloom, can be toxic to humans and animals
- in the form of high levels of nitrogen as ammonia, may cause unsafe conditions in sewer mains and pumping stations
- increase the operation and maintenance costs of the sewage treatment works.

Sulphur compounds in the form of:

- sulphites consume oxygen and may cause anaerobic conditions
- sulphates can be reduced to sulphides and may cause odour and corrosion problems in sewers
- sulphides may result in the release of hydrogen sulphide gas and affect the safety of workers.

Detergents:

- interfere with the performance of pre-treatment equipment (e.g. grease arrestors, mineral oil separators)
- may cause foaming problems in sewers and sewage treatment works
- are toxic to aquatic organisms.

Cyanide:

- is toxic to living organisms
- may produce toxic gas in the sewer.

Chlorinated solvents:

- may inhibit sewage treatment processes
- are toxic to people working in and around the sewerage system.

Flammable substances:

- may cause fires and explosions in the sewerage system.

Pesticides:

- may inhibit sewage treatment processes
- may pass unchanged through the sewage treatment works and adversely affect the environment
- may limit the beneficial reuse of the sewage treatment works' effluent and biosolids
- in the form of organochlorine pesticides, are persistent in the environment and accumulate in living organisms.

Phenolic substances:

- may inhibit sewage treatment processes.

F3 Liquid trade waste pre-treatment equipment

F3.1 General installation requirements for liquid trade waste pre-treatment equipment

F3.1.1 Plumbing requirements for liquid trade waste connections to the sewerage system

Council must ensure that sanitary plumbing and drainage work are installed in compliance with:

- *Plumbing and Drainage Act 2011*
- Plumbing and Drainage Regulation 2017
- Plumbing Code of Australia 2019
- *Work Health and Safety Act 2011*
- AS/NZS3500, National Plumbing and Drainage Code; Part 1: Water Services
- AS/NZS3500, National Plumbing and Drainage Code; Part 2: Sanitary Plumbing and Drainage.

The liquid trade waste pre-treatment equipment must be installed in compliance with the above regulatory requirements, council's requirements and the manufacturer's instructions. The pipes and connecting fittings must also comply with relevant codes and standards. The plumbing and drainage work must be carried out by a licenced plumber.

F3.1.2 Electrical equipment used in liquid trade waste treatment systems

Flammable Class 3 liquids (see the Australian Dangerous Goods Code) such as petrol, kerosene or other solvents are potentially dangerous in the workplace. Although these substances are prohibited from discharge to the sewerage system, there is the potential for them to be present near liquid trade waste treatment facilities where electrical equipment may be used.

Where flammable liquids or vapours may be present, electrical equipment must have the correct electrical rating for the particular installation and must be installed in accordance with the manufacturer's instructions.

Flammable substances must be located at a safe distance from the area where electrical equipment is operated.

All electrical installation/connection work must be carried out by a licenced electrical contractor.

F3.2 Methods of containment

An area where liquid trade wastes are generated must be roofed and bunded to minimise the ingress of stormwater to the sewerage system.

F3.2.1 Roofing of liquid trade waste generating areas

When an activity generating liquid trade waste or the liquid trade waste pre-treatment process is not conducted indoors, suitable roofing needs to be provided to prevent the ingress of stormwater to the sewerage system (refer to s. F10.1). If some activities are carried out in an open area, the ingress of stormwater into the sewerage system must be prevented or minimised, if roofing is not feasible (refer to ss. F10.2 and F10.3). Areas where stormwater is likely to become contaminated must be bunded and roofed over, unless approved otherwise.

F3.2.2 Bunding

A bund is defined by AS 4452B 1997 as an impervious embankment of earth, or a wall of brick, stone, concrete or other suitable material, which may form part or all of the perimeter of a compound that provides a barrier to retain liquid.

All liquid trade waste pre-treatment systems and any substance that could adversely affect the sewerage system, the environment or the safety of people must be contained in bunded areas so that any leaks, spillages, and/or overflows cannot be directly discharged into the sewerage system, stormwater system and/or environment. Leaks, spillages and overflows from a bunded pre-treatment equipment area must not be discharged without appropriate pre-treatment.

The net capacity of a bund must be sufficient to contain 110% of the largest container. Allowance should also be made for the capacity displaced by other tanks within the bunded area. The interconnected tanks must be treated as a single tank of equivalent total volume for the purposes of the bund sizing. If the material is stored in drums (or other small containers), the bunded area must contain at least 25% of the total volume of the stored products.

A collection sump must be provided in the bund floor for the isolation and removal of liquids. Bunded chemical and fuel storage areas must not be connected to the sewerage system. Any spilled material collected in the sump, needs to be pumped-out and disposed at an appropriate facility.

For requirements in regard to bunding, refer to the NSW EPA website. Also, there are various standards applicable to storage of different substances depending on their nature (for example flammable, corrosive, oxidising substances, etc.).

For the storage of any flammable materials, Fire and Rescue NSW recommends that the bund capacity needs to be increased to allow for the capture of fire water (the current recommendation is 133% of the capacity of the largest tank).

F3.2.3 Speed humps

These are similar to the speed reduction installations used on roads. In this case, it is used to contain spills and to segregate potentially contaminated areas from clean areas without impeding traffic flow. If bunding is to be driven over, it has to comply with AS 2890:1 for speed humps.

Speed humps may be used around areas such as fuelling facilities, truck unloading bays, and particularly at storage tanks and ‘remote fill’ points. A pit with a valve is incorporated into the system to isolate contaminated flows for pumping out and disposal to an appropriate waste disposal facility.

Speed humps can also be used as a form of containment where relatively small spills are likely to occur or where a more substantial structure is not practicable.

F3.3 Common types of pre-treatment devices

The following prescribed equipment can be used for pre-treatment of liquid trade waste (refer to Table 8 in chapter 4 of these guidelines):

- screening devices including sink screens and strainers, fixed or removable screens, lint screens, fish scale arrestors, dry basket arrestors, mechanical screens (rotary screens, rotary inclined drum screens), amalgam traps and plaster arrestors. Refer to s. F4 in this appendix for further information
- grease arrestor devices including passive grease arrestors, oil/fat interceptors (also known as active grease arrestors). Refer to s. F5 in this appendix
- mineral oil separators including coalescing plate interceptors/separators, hydrocyclone separation systems and vertical gravity separators. Refer to s. F6 for further information
- cooling pit/tank (refer to s. F7)
- balancing/dilution pit/tank
- general-purpose/solids-settlement pit
- solids-settlement pits/silt traps.

Further information on typical pre-treatment equipment is provided in the following sections.

F4 Screening devices

Screening is a basic pre-treatment, preventing downstream blockages and equipment failure by capturing gross solids, thereby reducing sewerage system maintenance costs and subsequent treatment costs.

A screen may consist of bars, rods, wires, gratings, wire mesh or perforated plates and may include internal lint screens for washing machines, fish scale arrestors, etc. Screens with openings of 3 mm or more are usually classified as coarse screens and those with openings less than 3 mm as fine screens.

Different mechanisms can be used for removing captured solids. They may vary from flat screens that are cleaned by brushing or hosing, through to rotary or bar screens that are either mechanically or manually cleaned.

Amalgam traps and plaster arrestors are also included in this section as the main purpose of these devices is to screen out unwanted substances.

F4.1 Dry basket arrestor

This is a device fitted with a fixed screen and removable mesh basket to capture large solids and fibrous material. The fixed screen ensures that if an operator neglects to re-install the basket, a failsafe mechanism is in place to continue to capture gross solids.

The maximum aperture size is to be 3 mm.

Some dry basket arrestors in the market have a ‘shut-off’ valve that automatically stops the flow through the waste outlet as soon as the removable basket is removed.

Dry basket arrestors can be installed in floor drains and in sinks with a fixed screen.

F4.1.1 Dry basket arrestor in floor waste outlet

A removable dry basket arrestor with a fixed screen must be fitted to all floor waste outlets in food preparation areas, mechanical/automotive work areas, vehicle washing facilities and where otherwise required to capture large solids. The basket must be removed, scraped and cleaned regularly. There must also be a fixed screen over all floor waste outlet gullies.

F4.1.2 Dry basket arrestor in sinks

This is an arrestor fitted to a sink with a fixed screen and a removable mesh basket. The arrestor captures solids and fibrous material from the wastewater. These are required to be install in all **new** commercial food preparation/serving premises and in the existing fishmonger (if scale arrestor is not provided) and butcher premises.

F4.1.3 Existing premises without dry basket arrestors

There are units available on the market that can be retrofitted into the existing pipe work for premises without dry basket arrestors, if practical.

F4.1.4 Hair trap

A hair trap is used for the collection of hair from wash basins in hairdressing salons. The trap has a small removable straining basket that needs to be cleaned regularly.

These traps can be installed either in individual wash basin or at a centralised location on the drainage line to serve a few wash basins, if practical.

F4.2 Mechanical screens

F4.2.1 Rotary screens

These include externally and internally fed screens. With an internally fed screen, which is the preferred system for liquid trade waste pre-treatment, wastewater enters the centre of the drum and then flows through the screen into a discharge channel. Solids are removed from the screen surface by cleaning brushes or a water spray. Screened material is usually washed from the screen with a high pressure spray into a discharge trough.

F4.2.2 Rotary inclined drum screens

Rotary drum screens are used to separate material fractions. As the screen rotates, the solids roll on the face of the screening cylinder and are intercepted by the diverter flights. The diverter flights are mounted spirally, with the spiral pointing to the outlet of the cylinder. Solids are directed up the inclined drum screen surface until they reach and drop-off at the outlet of the cylinder. Solids can drop off into a container, conveyor chute or solids dewatering device for further processing to reduce the water content.

F4.3 Amalgam trap

This device removes the amalgam produced as a result of dental procedures. The trap can be either fitted to the cuspidor and suction pipe or installed at a central location to serve a few dental chairs.

F4.4 Plaster arrestor

This is a filtration tank with screens for separating the plaster used in medical procedures and materials used in craft activities, such as clay.

F5 Grease arrestors

As indicated in s. 4.3 of these guidelines, some food-related discharges generate no or minimal greasy waste and a grease arrestor is not required. Table 9 in chapter 4 of these guidelines indicates requirements for a grease arrestor for various discharges.

F5.1 Passive grease arrestor

A passive grease arrestor is an above-ground or in-ground tank that provides sufficient retention time to allow the reduction of the wastewater temperature and the separation of fats, oils, and grease (FOG) from the kitchen wastewater. The arrestor should also have an adequate capacity to retain solids and fat/grease layers between pump-outs. In order to maintain optimum efficiency, the separated layers of fat and settled solids need to be removed periodically.

Historically, boat-shaped grease arrestors have been installed in regional NSW. However, other types of arrestors are now available.

F5.1.1 Grease extractors

A grease extractor (or filter-type arrestor) may only be considered for small operations where it is not practical to install a passive grease arrestor.

If a grease extractor is proposed, then the proponent needs to provide a report to council from a hydraulic consultant/plumber outlining the reasons why a passive grease arrestor cannot be installed. Council needs to provide the report to the Water Utilities Branch of the Department of Planning, Industry and Environment when a grease extractor is proposed to be installed at a new premises.

F5.2 Passive grease arrestor sizing

Wastewater from food-related businesses may have significantly higher concentrations of suspended solids, fats, oils and greases than in domestic sewage, and has the potential to adversely impact sewerage infrastructure, treatment processes and the environment. There is also the risk that it will breach regulatory requirements. Therefore, on-site treatment to separate oil and grease is required.

It is recommended to consider a risk-assessment process for selecting an appropriate size for the grease arrestor (refer to s. F5.2.2).

F5.2.1 Minimum and maximum capacity requirements

The minimum capacity required for a passive grease arrestor is 1,000 L. Fast food outlets such as McDonalds, Red Roosters, KFC, etc., premises cooking poultry/pork in a steam oven or gas vat and premises with a wet wok require a minimum capacity of 1,500 L.

The maximum permitted capacity of a passive grease arrestor is 5,000 L in order to enable satisfactory maintenance and servicing. If a grease arrestor capacity larger than 5,000 L is required, then multiple passive grease arrestors need to be installed.

For example, if the total capacity of passive grease arrestors required for a shopping centre is 10,000 L, this requirement can be met by installing two 5,000 L arrestors. Council needs to contact the department when a grease arrestor greater than 5,000 L is proposed to be installed at a new premises.

Furthermore, if the flow is divided among multiple passive grease arrestors, consultants are required to identify and design the flow to each arrestor.

If it is identified that a premises requires a passive grease arrestor capacity more than 10,000 L, advance treatment targeted to specific site requirements would be more appropriate than installing multiple grease arrestors.

F5.2.2 Risk assessment

A number of factors contribute to the overall risk assessment for a particular food business. The following factors need to be considered when selecting an appropriate size for a passive grease arrestor:

- whether the food is prepared and cooked on-site or prepared off-site
- the proportion of eat-in versus takeaway sales (i.e. reusable tableware versus disposable containers/cutlery)
- type of food prepared and/or served (e.g. food with high fat content, such as fried food, barbequed meat, etc.)
- the proportion of high-temperature water in the waste stream (e.g. generated by dishwashers, combi-ovens, wet woks)
- peak flow rate
- hours of operation.

The following sections describe the procedures for the assessment of food-based risk (FBR) and temperature risk level (TRL).

F5.2.2.1 Food-based risk assessment process

Table F1 and Table F2 indicate the food-based risk (FBR) levels based on type, method of preparation and serving practices of food.

Table F1. Characterisation of food-based risk categories

Risk Category	Low risk activity	Medium risk activity	High risk activity
Food preparation risk (FPR)	No cooking Raw whole foods[1] Pre-packaged food Assembling from raw food or food prepared elsewhere	Steaming, boiling, microwaving, grilling low-fat and low-oil foods Baking[2] Butchery or delicatessen	Barbequing, frying, deep frying, grilling, roasting meat Poultry cookers/ combi-ovens
Food serving risk (FSR)	Predominantly take away	Both eat in and take away in similar proportions	Predominantly eat in

1 Excludes butchery, which is included in Medium risk.

2 Separately consider preparation of contents included in baked goods.

Where the food preparation risk (FPR) and food serving risk (FSR) fall into different risk categories, the food based risk is assessed by considering the cumulative effect (refer to Table F2).

Table F2. Determination of food-based risk (FBR)

Food preparation risk (FPR) / Food serving risk (FSR)	Low FPR	Medium FPR	High FPR
Low FSR	Low FBR	Medium FBR	Medium FBR
Medium FSR	Medium FBR	Medium FBR	High FBR
High FSR	Medium FBR	High FBR	High FBR

F5.2.2.2 Temperature risk level assessment process

The temperature risk is associated with the discharge from appliances generating high-temperature wastewater, such as combi-ovens, dishwashers and wet woks. The temperature risk level (TRL) is considered to be low if the discharge volume from such appliances is less than 50% of the total liquid trade waste discharge, and to be high if the discharge from these appliances is 50% or more.

F5.2.2.3 Overall risk level

The overall risk is assessed by combining the food-based risk (FBR) with the temperature risk level (TRL).

Table F3. Determination of overall risk level

Food-based risk (FBR) / Temperature risk level (TRL)	Low FBR	Medium FBR	High FBR
Low TRL High temp waste <50% of total liquid trade waste volume	Low	Medium	High
High TRL High temp waste ≥50% of total liquid trade waste volume	Medium	High	High

Note:
If overall risk level is low, a passive grease arrestor is not required.

F5.2.2.4 Recommended methods for passive grease arrestor size determination

The recommended methods for estimating a grease arrestor capacity are listed below in the order of preference.

1. Flow rates applicable to various fixtures connected to the arrestor
2. Seating or meals capacity (or number of beds, where applicable)
3. An average water consumption

The above approach is consistent with the *National Guideline for Managing Food, Fat, Oils and Grease from Food Premises*, October 2018 developed by WSAA. Irrespective of the size calculated by using the above three methods, the minimum capacity required for a passive grease arrestor is 1,000 L (refer to s. F5.2.1).

Wastewater with a high concentration of detergents and of high temperature may have an adverse impact on grease arrestor performance. The temperature of wastewater in a grease arrestor to which large commercial dishwashers are connected may reach 70–90˚C and interfere with the separation of oils/fats.

Note:
The three methods listed for passive grease arrestor sizing may not be suitable for premises generating large volumes of high-temperature wastewater, operating for long hours and/or having a high turnover.

The discharger needs to demonstrate that a grease arrestor has been sized to consistently keep the effluent temperature below 38˚C. In such cases, it is recommended that a hydraulic specialist be engaged to determine the appropriate size.

It is imperative that council's staff discuss liquid trade waste pre-treatment requirements at the DA stage in order to ensure that appropriately sized pre-treatment equipment is provided for such premises.

F5.2.3 Sizing based on fixture rating

(This information is adapted from the *National Guideline for Managing Food, Fats, Oils and Grease from Food Premises*, October 2018, WSAA)

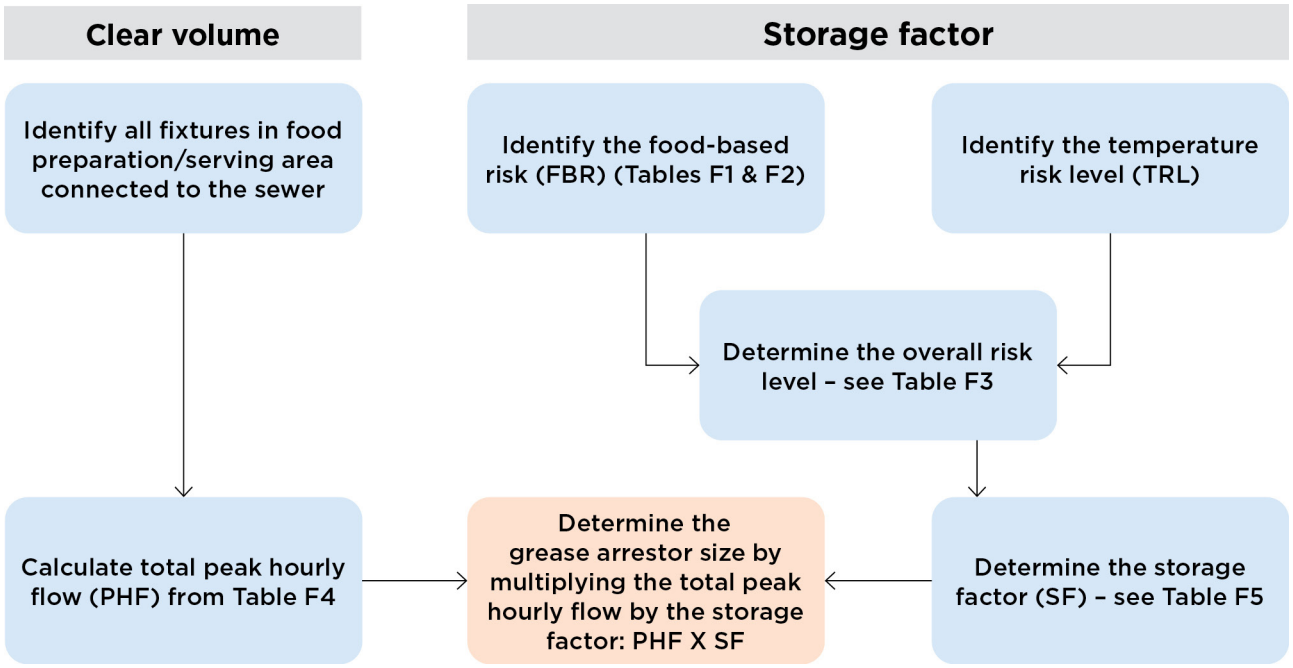
The sizing of a grease arrestor using the peak flow rate of fixtures (fixture rating) is the preferred method of calculating grease arrestor capacity, subject to limitations described in s. F5.2.

To function effectively, a passive grease arrestor must have:

- minimum clear volume to provide sufficient detention time to cool down the wastewater and to maintain effective separation of fat, oil and grease at the peak flow rate. The minimum clear volume is calculated from hourly flow rates applicable to various kitchen fixtures as indicated in Table F4
- additional volume to store fat, oil and grease that accumulates between cleanout events. This is referred to as a storage factor, which is determined by the overall risk level. Refer to Table F3 and Table F5 to identify the overall risk level and the storage factor.

The required capacity of the grease arrestor is estimated by multiplying the peak hourly flow rate by the storage factor.

Figure F1. Procedure for sizing a passive grease arrestor by fixture rating



F5.2.3.1 Determination of peak hourly flow from fixtures

Table F4 provides peak flow rates for various kitchen appliances and fixtures.

The peak hourly flow (PHF) volume from fixtures is calculated by adding the peak flow (L/hr) for individual fixtures connected to a grease arrestor. If a fixture is not listed in Table F4, PHF can be determined from the manufacturer's specification.

Table F4. Determination of a peak flow from fixtures

Fixture	Peak flow L/h
Bain marie	Max capacity of apparatus (minimum 50)
Bratt pan[1]	100
Cleaners sink	50
Combi-oven/barbeque	Manufacturer's peak flow rate
Commercial dishwasher (door or hood)	300–500
Commercial dishwasher (conveyor)	Manufacturer's peak flow rate
Floor waste outlets[2]	50
Glass washer	Manufacturer's peak flow rate x 3
Hand basin	50
Pasta cooker[1]	100
Potato peeler (if connected)	Manufacturer's peak flow rate x 3
Pot sink	150[3]
Sink—single	75[3]
Sink—double	150
Steam cooker[1]	100
Under-bench dishwasher	100
Wok—traditional (per burner)	200/burner
Wok—waterless (per burner)	30/burner

1 Where units are fixed and washed in place.

2 If multiple floor waste outlets are located in food preparation area, apply a factor of 1/3 to the peak flow.

3 The peak flow rates in Table F4 take into account that not all the fixtures are used at the same time. A factor of 1/3 has already been applied to the expected hourly peak flow from these appliances, where appropriate.

F5.2.3.2 Storage Factor (SF)

The overall risk level identified previously (refer to Table F3) is required for the determination of an appropriate storage factor (refer to Table F5).

Table F5. Storage factor (SF)

	Overall risk – Medium	Overall risk – High
Storage factor (SF)	1.5	2

F5.2.3.3 Grease arrestor capacity

The required size of the grease arrestor is calculated by multiplying peak hourly flow (PHF) and the storage factor (SF).

Capacity of the arrestor = PHF X SF

F5.2.3.4 Examples of sizing of a grease arrestor based on fixtures

Example F1

A restaurant serves fried food, using deep frying, grilling, etc.

Step 1—Identify all fixtures

The restaurant has the following fixtures: 1 medium size commercial (door) dishwasher, 1 single sink, 1 double sink, 1 pot sink, 1 hand basin, 1 cleaners sink.

The flow rate (L/h) for each fixture is determined from Table F4:

- dishwasher = 300
- single sink = 75
- double sink = 150
- pot sink = 150
- hand basin = 50
- cleaners sink = 50

Step 2—Calculate the total volume from fixtures

Add up the above flow rates to determine the peak hourly flow rate (PHF):

PHF = 300 + 75 + 150 + 150 + 50 + 50 = 775 L/h

Step 3—Identify the food-based risk (use Table F1 and Table F2)

As the restaurant prepares fried and grilled food, the FPR is high. The restaurant is eat in, therefore the food service risk (FSR) is high.

Using Table F2, the food-based risk (FBR) is high.

Step 4—Identify the temperature risk level (TRL)

As the restaurant has only one dishwasher, the TRL is low.

Step 5—Determine the overall risk level

Using Table F3, the overall risk level is high.

Step 6—Determine the storage factor (SF)

The SF from Table F5 is 2.

Step 7—Determine a grease arrestor capacity

Multiply the PHF determined in Step 2 by the storage factor (Step 6): 775 x 2 = 1,550 L

The required grease arrestor capacity is 1,500 L, the nearest commercially available size.

Example F2

A cafe serves salads, grilled and some fried food, tea/coffee with bakery items baked off-site. The cafe is open for breakfast and lunch (7 hours per day). Food is served both to take away and eat in.

Step 1—Identify all fixtures

The café has the following fixtures:

2 single sinks, 1 under-bench dishwasher, 1 steam cooker, 1 hand basin, 1 cleaners sink.

The flow rate for each fixture is:

- dishwasher = 100
- single sinks = 75 x 2 = 150
- Steam cooker = 100
- Hand basin = 50
- Cleaners sink = 50

Step 2—Calculate the total volume from fixtures

PHR = 100 + 150 + 100 + 50 + 50 = 450 L/h

Step 3—Identify the food-based risk (FBR)

The café serves low fat food and purchases baked goods, therefore the FPR is medium.

The café serves both takeaway and eat-in food, therefore, the FSR from Table F1 is medium.

The FBR from Table F2 is medium.

Step 4—Identify the temperature risk (TRL)

The TRL is low.

Step 5—Determine the overall risk level

The overall food-based risk from Table F3 is medium.

Step 6—Determine the storage factor (SF)

From Table F5, the storage factor is 1.5.

Step 7—Determine a grease arrestor capacity

Multiply the PHR from step 1 by the storage factor from step 6.

450 x 1.5 = 675 L.

The required capacity of a grease arrestor is 1,000 L (minimum capacity allowed).

F5.2.4 Sizing of a grease arrestor based on the number of seats or meals

This method should only be used in the absence of information on fixture flow rates. Establish the number of seats, rooms or beds and refer to Table F6, which indicates the minimum capacity of a grease arrestor for food-serving premises, such as cafés and restaurants, based on number of seats.

Where the number of seats is not relevant, for example in takeaway shops, the assumption can be made that one seat is equivalent to three meals.

Step 1—Identify the food-based risk from Table F1 and Table F2

Step 2—Identify the temperature risk

Step 3—Determine the overall risk level from Table F3

Step 4—Calculate grease arrestor minimum volume from number of seats/meals or beds from Table F6

Table F6. Determination of a grease arrestor size based on number of seats, meals or beds

Seats/beds	Meals per hr	GA capacity (L)—Medium risk	GA capacity (L)—High risk
0 to 50	0 to 150	1,000	1,000
51 to 100	151 to 300	1,000	1,500
101 to 200	301 to 600	1,500	2,000
201 to 500	601 to 1,500	3,000	4,000
501 to 800	1,501 to 4,000	4,000	5,000

For a hospital, hostel, nursing home

- If there is no food waste disposal unit, replace the number of seats with the number of beds.
- If a food waste disposal unit is installed, select the grease arrestor capacity as above and increase the volume by 25% in order to determine the required grease arrestor capacity.

The use of a food waste disposal unit (garbage grinder) is permitted to continue only if it is already installed in an existing kitchen at a hospital or nursing home. These units are not allowed in a new hospital or nursing home kitchens, or other commercial kitchens, unless permitted by the council under special circumstances. When hospital or nursing home kitchen is refurbished, garbage grinders need to be removed.

Table F7. Determination of a grease arrestor capacity for other premises

Premises	Minimum capacity required
Fast food outlets —Burger King, KFC, McDonalds, Red Rooster, etc. (sized according to number of meals)	1,500 L
Barbequing process —rotisserie, charcoal barbeque, hot plate	1,000 L
—steam oven, gas vat	1,500 L
Restaurant, food outlets with a wet wok —sized according to the flow rate	1,500 L
Motel: room service provided —up to 50 rooms	1,000 L
—up to 100 rooms	1,500 L
—up to 200 rooms	2,000 L
—up to 300 rooms	3,000 L

Example F3

A Chinese restaurant has 40 seats and expects to serve up to 400 meals, both to eat in and take away.

Step 1—Determine the food base risk (FBR)

From Table F1, FPR is high and FSR is medium.

From Table F2, the FBR is high.

Step 2—Determine the temperature risk

The restaurant has a wet wok, therefore the TRL is high.

Step 3—Determine the overall risk

From Table F3, the overall risk is high.

Step 4—Calculate the grease arrestor capacity

From Table F6, based on seating the required grease arrestor capacity is 1,000 L. However, based on the number of meals the capacity of the grease arrestor is 2,000 L. The larger of these sizes must be used. Therefore, the required capacity is 2,000 L.

F5.2.5 Sizing of a grease arrestor based on water consumption

For an existing business, water meter readings can be used as a guide where no information on fixtures is available and/or no meal numbers or seats are applicable, such as for a butchery or bakery. The arrestor needs to be sized according to the peak influent flow rate to allow at least one-hour detention time.

To establish a daily discharge volume, a trade waste discharge factor (TWDF) needs to be applied to the average daily consumption (as per the water meter reading). It is recommended that a dedicated water supply meter or a check meter be installed on a water supply line to the liquid trade waste area. In order to determine the peak discharge flow rate, consideration needs to be given to the hours of operation and a pattern of water usage.

Example F4

A butcher shop has average water consumption of 800 L/day. Consider a TWDF for a butcher shop as 0.9.

The average daily discharge volume:

Trade waste discharge volume = 800 x 0.9 = 720 L

It is assumed that washing/cleaning is mostly carried out at the end of the day, therefore, the above flow will be used as a peak hourly flow for the sizing of a grease arrestor. The grease arrestor should be of 1,000 L (minimum allowed capacity).

In such cases, the use of a 'smart' water meter that provides information on the hourly water usage is particularly useful (refer to s. F13.4.1).

F5.3 Shared grease arrestors

Where new shared grease arrestors are to be installed, the capacity of the shared grease arrestor needs to be equivalent to the total of grease arrestor capacities required for each individual business.

The sizing may be determined as follows:

- For the fixture method, add together the volumes for all of the fixtures in the relevant food businesses and use this sum for determination of the shared arrestor capacity.
- For the seats/meals method, add together the number of seats or meals for each business and use the total for sizing calculations.
- For the water consumption method, add together the average water flow for each business (determined by using individual trade waste discharge factors) and use this data to estimate the potential peak flow. The water usage and hours of operations of each individual business need to be considered.

F5.4 Considerations when installing a grease arrestor

Grease arrestors must be installed in accordance with the manufacturer's recommendations. Above-ground units must be located in a shaded position and not exposed to direct sunlight. The arrestor must be accessible for pump-outs and inspection.

Wastewater with high levels of detergents and of a high temperature may have an adverse impact on grease arrestor performance. In any new built premises, wastewater from commercial glass washers should not be discharged through a grease arrestor.

Discharges from potato peeling appliances take up treatment capacity, reducing the detention time in the grease arrestor. This may contribute to odour problems due to fermentation processes occurring in a grease arrestor. Liquid waste from potato peeling appliances should bypass the grease arrestor.

In general, only kitchen waste should pass through a grease arrestor. Other liquid wastes either interfere with the fat/grease separation process or take up capacity, reducing retention time and affecting the operation of a grease arrestor.

Installation must also comply with work health and safety requirements and food safety requirements.

F5.5 Maintenance of a grease arrestor

Grease arrestors treat the wastewater by allowing oil and grease to float and solids to settle. The fat and settled solid layers build up within an arrestor and need to be removed periodically in order to maintain the effectiveness of the grease arrestor. Failure to service the unit correctly and regularly may lead to downstream blockages and odour problems.

A grease arrestor must be pumped out completely and the internal surfaces scraped and/or hosed off during the pump-out operation. It is the best practice to fill to the half level of the grease arrestor with clean water after cleaning. A water tap fitted with an appropriate backflow prevention device needs to be provided in the proximity to the grease arrestor.

Initially, the pump-out frequency is set at every 13 weeks. This may need to be adjusted by council after a grease arrestor has been in operation for a period of time. For example, if a lighter load on the grease trap is evident, the grease arrestor may need servicing less often, reducing the maintenance costs.

Appropriate housekeeping (refer to s. F11) will help reduce the load on the grease arrestor. However, the pump-out frequency should not exceed 26 weeks due to potential corrosion and odour problems, which may develop if fats and solids layers are not removed for a long time.

As indicated in s. 3.2.2.9 of these guidelines, the use of bacterial, enzyme and odour-controlling additives in a grease arrestor is not permitted unless specifically approved by the department. Waste cooking oil and fats are prohibited from being poured down to the sewer drainage system and must be collected for separate disposal and preferably sent for recycling.

F5.6 Undersized grease arrestors

If an existing grease arrestor is undersized, the situation may be addressed by more frequent maintenance, depending on the capacity of the arrestor. Dischargers with an undersized grease arrestor may apply to council for approval to continue operations. Refer to ss. 3.3.1 and 5.1.3 of these guidelines for procedures to obtain approval for operating with undersized equipment.

The initial pump-out frequency can be set as indicated in Table F8. Council may change the frequency of the pump-outs following inspections.

Table F8. Initial pump-out frequency for undersized arrestors

Existing arrestor capacity as a percentage of the required capacity	Initial pump-out frequency (weeks)
50–70%	4–6
> 70% and < 85%	8

The efficiency of an arrestor smaller than 50% of the required capacity is unlikely to be improved by more frequent pump-outs. It needs to be replaced with an appropriately sized arrestor within an agreed timeframe.

F5.7 Measurement of solids and grease retention

The arrestor needs to be pumped-out when the surface layer of fat and oil exceeds 10% and/or the sludge layer at any point on the bottom exceeds 20% of the total depth of the arrestor. Pump-out must also be carried out if the thickness of the combined surface and sludge layers exceeds 25% of the total depth of the arrestor.

A measuring device such as a grease and sediment gauge or a sludge judge can be used to determine the depth of the solids and grease layer build-up in the arrestor, if necessary. The pumped out waste must be removed by an authorised contractor and disposed of at an appropriate waste disposal facility.

F5.8 Oil/fat interceptor (active grease arrestor)

Oil/fat interceptors, also known as active grease arrestors, are mechanical or hydraulic devices that may assist in separating fat, oil and grease from wastewater. Active grease arrestors provide additional capacity when installed upstream of a passive grease arrestor by intercepting oil, fat and grease generated in large amounts by food preparation activities, such as cooking chicken (in steam ovens) and barbequing, or by fast food premises connected to the sewer.

These devices are not permitted to be used as a stand-alone device. Council needs to contact the department if such device is proposed in place of a passive arrestor.

F5.9 Under-sink pump unit

It is preferable that kitchen waste drains by gravity to a grease arrestor, and the arrestor needs to be located close to the kitchen. This may not be feasible in some situations due to site or plumbing constraints. In such cases, an under-sink pump unit may need to be installed.

An under-sink pump unit consists of a tank to collect the kitchen wastewater and a pump within the tank that delivers the wastewater to a grease arrestor. The installation of such units needs prior consultation with council. The capacity of the under-sink pump-out unit should not exceed 40 L.

To ensure that the unit is cleaned of residual grease, hot water should be run into a kitchen sink for about 20 seconds at the end of a working day. The unit needs to be cleaned at the same time as the grease trap is serviced. Installation of an in-sink dry basket arrestor may be required.

F6 Mineral oil separators

A mineral oil water separator is designed to separate and capture oils, grease and hydrocarbons. Wastewater containing residues of petroleum products must be treated in a mineral oil separation system before discharge into the sewer.

The mineral oil separators included in the prescribed equipment list in Table 8, chapter 4 of these guidelines are coalescing plate interceptors/separators, vertical gravity separators and hydrocyclone separation systems. All these separators need to be sized according to the influent flow rate.

For existing dischargers with inadequate pre-treatment, refer to s. 3.3.2 of these guidelines.

F6.1 General

F6.1.1 Cleaning compounds

A mineral oil/water separation system only works for oil and petroleum substances that are water-insoluble and/or have different density to the water and therefore can be separated by gravity. If emulsifying agents such as surfactants or solvents cause an oil and water to form an emulsion, the separator will not perform effectively. It is therefore preferable not to use detergents in the washing operations. If this is not practical, only detergents that allow oil/water emulsion to break in a reasonably short time—so called ‘quick break’ detergents—must be used.

A quick break detergent or degreaser is a surfactant that removes oil, grease and hydrocarbons from the cleaning surface without forming a permanent emulsion. The emulsion needs to break completely, allowing the separation of liquid into an oily and aqueous layer within 20 to 30 minutes.

The discharger needs to ensure that the supplied detergent is of a 'quick break' type. It should be verified on a site-specific basis that, while using a particular detergent, the emulsion breaks within the time specified above. If a degreaser is used, it needs to be wiped off prior to the washing operation.

F6.1.2 Pumps

A pump transferring wastewater from a collection pit to an oil interceptor needs to be of non-emulsifying type, such as an electrically driven diaphragm pump or a positive displacement pump. The pump suction inlet must be at least 300 mm above the bottom of the collection pit.

The discharger must ensure that only a pump provided or authorised by the supplier of the oil separation system is used.

F6.1.3 Maintenance of a mineral oil separator

The maintenance of the oil separator system must be carried out in accordance with the supplier recommendations. A suitable maintenance period depends on the quality of the influent. An initial maintenance needs to be performed in accordance with the supplier's recommendation and adjusted, if necessary, to meet the approved effluent quality.

F6.2 Coalescing plate interceptor/separator

A coalescing plate separator uses the difference in specific gravity to separate free (non-emulsified) oil and solids from water. The pack of plates is placed across the direction of flow to assist this process. Flow through the plates is laminar to achieve optimum separation of oil from the water.

The configuration of the plates forces small oil droplets to merge into larger ones, which then rise to the surface. The plates are inclined at 45° to 60° to the horizontal so that solid particles caught by the plates are discharged into a sludge hopper. The oil collected on the surface is skimmed off by oil skimmers into the waste oil tank. The plate packs are modular and are easily removable for cleaning.

There are also variations to plate packs, such as tubes, where wastewater passes through the vertical tube coalescing (VTC) pack, or plastic media.

F6.3 Hydrocyclone separation system

This system uses centrifugal force to separate mineral oils from wastewater generated by automotive industry processes. Oily water is drawn off the top of a pit via a floating skimmer and is pumped into a hydrocyclone unit. Centrifugal force drives oil to the centre of the hydrocyclone vortex and oil is removed via a small hole in the end wall of the unit. It is then directed to either an oil storage tank, a separate compartment in the pit, or to a drum.

The above system is mainly used by industrial activities.

F6.4 Vertical gravity separator

A vertical gravity separator operates by controlling fluid velocity and pressure, allowing high-density contaminants to fall into a sludge retaining area and oil droplets to rise. A separator uses a vertical cylindrical tank containing a conical spiral pack to separate non-emulsified oils and solids from wastewater.

As liquid enters the vertical gravity separator through the inlet leg, it flows up through a low-pressure zone in the middle of a multi-leaved, spiral, inverted V shaped baffle known as a spiral pack (SPAK). This central low-pressure zone creates a flow up through the centre and down the inside of the main body.

As the fluid flows down the sides and due to numerous directional changes, non-emulsified impurities fall out of suspension and are drawn into the low pressure core. Heavy contaminants fall into a sludge holding area at the base, where they are regularly 'drained off' through a valve. Low-density impurities move to the centre and rise to the surface, overflowing into the 'slop tank'. Treated effluent flows from the 'cleaned water outlet'.

F6.4.1 Maintenance of a vertical gravity separator

The maintenance of the vertical gravity separator must be carried out in accordance with the supplier recommendations, and the maintenance schedule needs to be developed on a site-specific basis. The spiral pack (SPAK) must be inspected as recommended by the equipment supplier and replaced if any swelling or cracking has occurred.

F6.5 Discharge from the existing service station covered forecourt areas and other refuelling points

As indicated in s. 3.2.2.6 of these guidelines, new service station forecourts and other refuelling points are not permitted to be connected to the sewerage system.

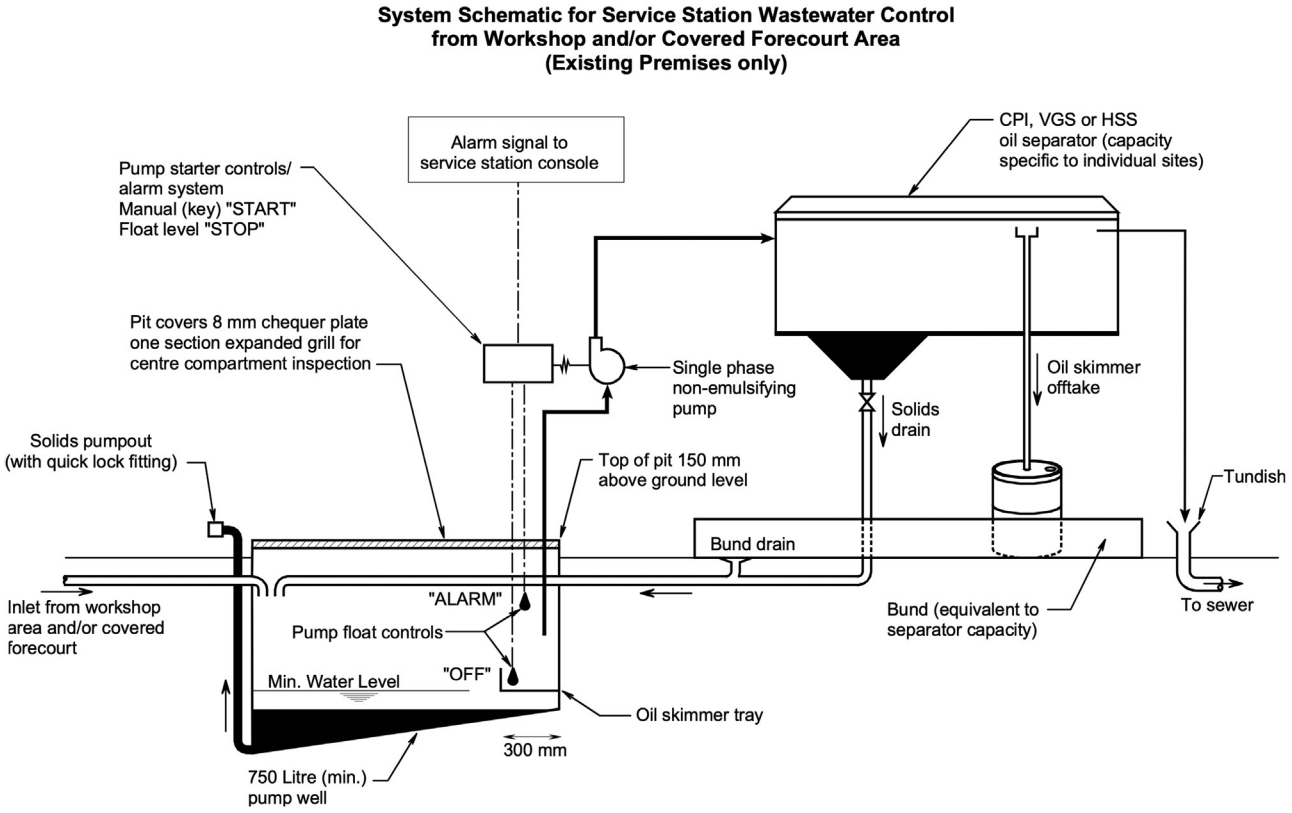
Existing service stations* with covered forecourt areas and existing refuelling points are permitted to remain connected provided the following requirements are adhered to:

- The forecourt/refuelling point area must be roofed and graded to exclude rainwater.
- Wastewater must drain into a collection well. The collection well should be 750 L in capacity with a sloping bottom and a lid with an inspection aperture.
- The collection well should have a high-level indicator fitted with an alarm switch.
- A pump transferring the wastewater to an oil interceptor/separator must have a manual start switch with a low-level stop. The switch must be located next to the pump pit.
- A pump should be of a non-emulsifying type.
- The collection pit must be checked for the presence of fuel and the pump is not to be started if petrol is detected in the pit. If petrol is found, the pit contents must be pumped out and disposed of to an appropriate waste disposal facility.
- Wastewater must be treated in an oil interceptor/separator system sized according to the influent flow rate. An oil separator with an oil collection container and sludge withdrawal system must be located within a bunded and roofed area. The sludge and pre-treatment plant bund area must drain back to the collection pit.

If significant renovation or refurbishment is undertaken to the refuelling facility, the forecourt/refuelling area will be required to be disconnected from the sewerage system. The same requirements are applicable to other refuelling points connected to the sewerage system, for example bus depots.

* Service stations or refuelling points that were connected to the sewerage system prior to 1 June 2012.

Figure F2. System schematic for existing service station wastewater pre-treatment



F7 Cooling pits

A cooling pit is required to be installed where a liquid trade waste discharge is likely to exceed 38˚C, for example in a laundry, during boiler blowdown, in autoclave units, etc. Incoming hot waste is cooled down by mixing with wastewater already in the pit and retained there until the temperature reaches the acceptable level. The capacity of the pit should be sufficient to allow the temperature to drop, and can be determined by the following formula:

$$V = V_H + (V_H \times F) \qquad F = \frac{T_H - T_A}{T_A - T_C}$$

Where:

V = minimum volume of the pit below the water level

V_H = estimated maximum volume of hot water discharged at one time

F = the estimated factor

T_H = maximum temperature of hot water discharged into the pit

T_C = assumed temperature of cold water in the pit, say 20°C

T_A = temperature of waste allowed into the sewer, say 38°C.

F8 Non-digital photographic waste

Dischargers using non-digital photographic processes have a choice of either having all silver-bearing waste transported away from site, and to only discharge rinse and sink waters, or to treat the waste on-site prior to discharging to the sewerage system.

When silver-bearing wastes are not transported from a site, they must be treated in a silver recovery unit. A balancing tank/pit may be required for photographic waste. The pit needs to be sized at 50–200 L, depending on the scale of the operations. There is an exception for small applications such as manual tray development.

The above requirement does not apply to secondary schools. It is recognised that operating a silver recovery unit successfully is not practical in a school environment. Storage of waste for off-site pre-treatment and disposal is not recommended due to risks associated with handling highly corrosive liquids.

Where all 'spent' solutions are transported from site, the waste must be removed by an authorised transporter. Records of contractor details and disposal location are to be kept on-site and made available to council as required.

F9 pH correction

F9.1 Definition of pH

pH stands for 'potential for hydrogen'. This is a term used to express the acidic or alkaline condition of a solution and is defined as a negative logarithm of the concentration of hydrogen ions in the solution.

The pH range varies from 0 to 14, with 7 being neutral (the pH of pure water at 25°C). Alkaline solutions have a pH above 7 and acidic solutions have a pH below 7.

The pH correction of liquid trade waste remains one of the most important pollution control measures. The pH correction of acidic or alkaline waste to be within the acceptable range is a step often required before discharge into the sewer.

Effect of high strength and low pH waste on sewage treatment works

Adjusting wastewater pH is also necessary for some liquid trade waste pre-treatment processes, such as:

- precipitation of metals contained in the waste stream to meet the acceptance limits for discharge to the sewer
- carrying out biological treatment of waste on-site as biological processes are adversely affected by the pH outside the range of 6 to 9.

F9.2 Practical problems of neutralisation

In order to neutralise a solution, it is necessary to add alkaline or acid to achieve an acceptable pH value for discharge. pH control is complicated due to the logarithmic nature of concentration—a solution having a pH value of 4 has 10 times more hydrogen ions than a solution with the pH of 5.

For example, if adding a certain quantity of alkaline solution to an acidic solution with pH of 3 will increase the pH of solution to 4, only about one-tenth of the initial quantity of alkaline solution needs to be added to take this solution from pH of 4 to pH of 5, and only one-hundredth of the initial quantity to bring it to a pH of 6.

At high and low pH values, large amounts of alkaline or acid solution are needed to move the pH value. Near a pH of 7, very small amounts of solution will rapidly move the pH. A precise control system is required to keep the pH within a certain range. Without this control, significant overshoot of the target pH may occur.

Wastewater generated by some activities may be highly variable in regard to pH and/or flow. The neutralisation system needs to compensate for these fluctuations. The pH control system must be an automatic operation due to its complexity. Manual pH correction can be ineffective and may be permitted only for some small operations.

It is necessary in many cases to provide a dual control system in order to achieve accurate neutralisation. An alternative is to provide a large attenuation tank to balance over or under reagent additions.

F9.3 pH correction system

pH correction is normally carried out in a tank or a pit with provisions for mixing. A pH control system measures the pH of the solution and controls the addition of a neutralising agent on-demand to maintain the effluent within acceptable pH limits.

Correction can be achieved either in a batch or a continuous flow-through system. As a rule, a continuous flow-through system is used if wastewater volumes and flow rates are high.

F9.3.1 Batch treatment

This is an acceptable pH correction method in situations where flow is irregular and relatively low. Wastewater is collected and treated in a neutralization tank that has provisions for dosing with reagents, adequate mixing and pH testing. After checking the pH, the supernatant liquor is discharged to the sewerage system and sediments, if any, are removed.

F9.3.2 Continuous flow

F9.3.2.1 Monitoring

Continuous systems must have separate pH sensor probes for control of dosing reagents and for the final discharge to sewer. These systems need to provide a continuous record of the pH of the effluent discharged to the sewerage system. A schematic arrangement of a pH-correction system is shown in Figure F3.

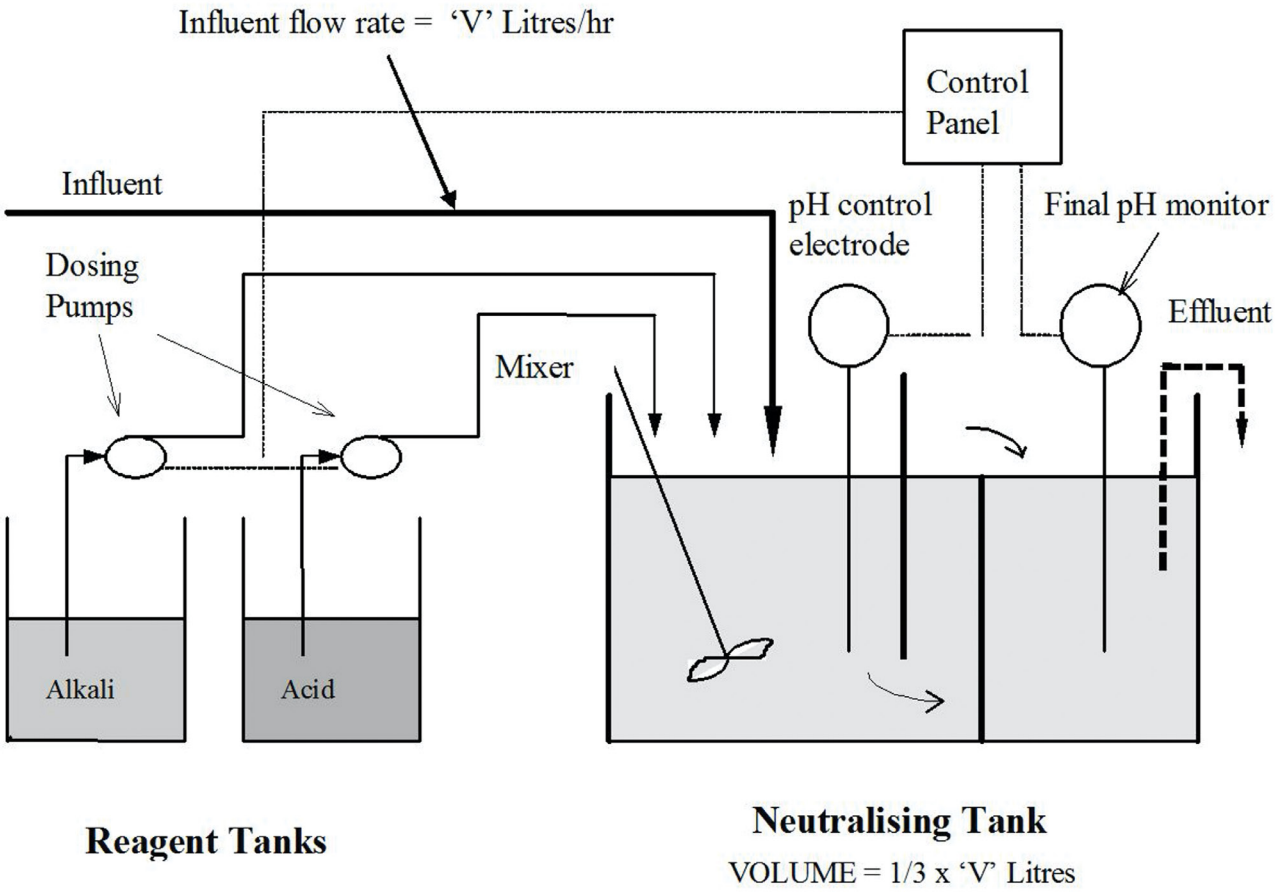
F9.3.2.2 Integrity and safeguards

Considering the serious damage that acidic or alkaline waste can cause to the sewerage system, the environment and the health and safety of workers, a pH-correction system needs to be designed with appropriate safeguards in place.

A pH-correction system needs to incorporate an alarm system to alert the operator of any malfunction or to the pH being outside the approved range. It needs to have an audible alarm and flashing light located in the area where it is noticeable at all times.

The pH correction system requires a regular maintenance and calibration schedule. The pH probes are prone to clogging and failing, therefore they need to be cleaned and calibrated regularly and need to be fully replaced from time to time, based on their performance and response to calibration.

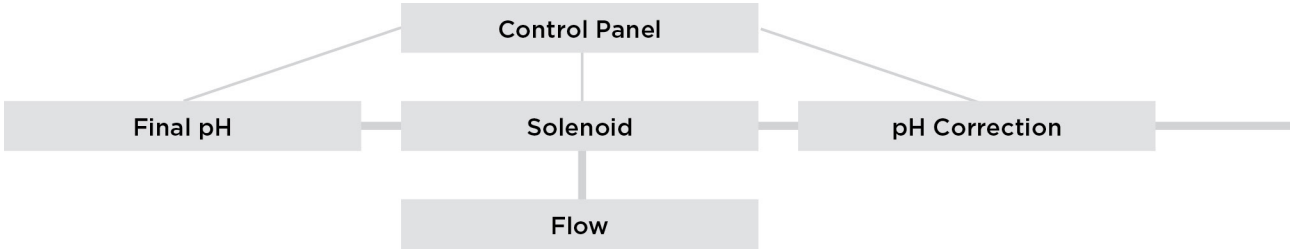
Figure F3. Schematic of pH correction system



Any automatic system must have the facility to bypass the sewer if the pH is out of range. This can be achieved by:

- a solenoid valve that cuts off the flow to sewer (refer to Figure F4) to:
  - recirculate the flow back to the correction tank to readjust the pH
  - divert the flow to a holding tank for subsequent correction
  - stop the flow completely
- recycling and reuse
- cartage off-site.

Figure F4. Schematic arrangement of sewer bypass system



F9.4 Alternatives to chemical addition

In some situations, alternative arrangements to the installation of a pH correction system may be acceptable.

The pH can be controlled by holding a portion of the waste stream with the pH outside the required range in a separate tank and transferring it at a controlled rate to a balancing tank/pit that holds waste within the acceptable range. This procedure will be effective if there are only occasional excursions outside the specified pH range.

pH may be also controlled by mixing acidic and alkaline process waste streams. This requires sufficient equalization capacity to achieve the required neutralization.

In practice, a pH correction system involving chemical dosing would be required in most cases to control the liquid trade waste discharge within the acceptable range.

F10 Prevention of stormwater contamination

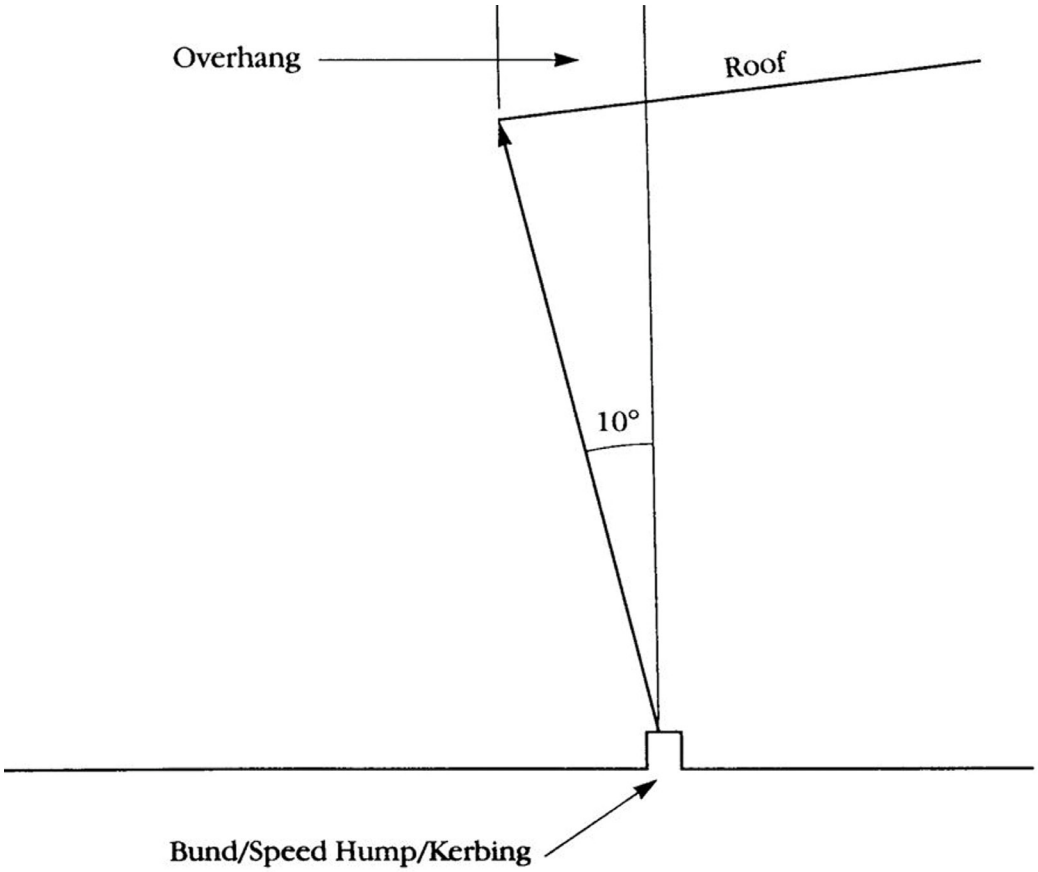
F10.1 Roofing of liquid trade waste generating areas

An area where liquid trade waste activities are carried out or pre-treatment equipment is installed must be roofed to prevent the ingress of stormwater to the sewerage system. For a structure where the sides are open to the weather, there must be a minimum of 10° from the vertical of roof overhang to provide acceptable cover.

To ensure that no stormwater run-off enters the liquid trade waste generating process area, a bund at least 150 mm high or speed hump 75 mm high around the area is necessary. The overall surface water flow across the site has to be considered, and the height of the bund/speed hump may have to be increased to prevent stormwater flow onto the process area.

This design might allow rainwater to blow under the roof. The roof must overhang by an amount not less than that shown in Figure F5 (this is not to imply that the roofing must be slanted at 10 degrees to horizontal).

Figure F5. Roofing of liquid trade waste areas



F10.2 Methods of exclusion of stormwater

From a waste management point of view, the complete prevention of stormwater contamination is the preferred solution. Areas where stormwater may become contaminated need to be bunded and roofed over. Spillage of chemicals, products, etc. must be controlled or cleaned by dry methods, so that neither the sewerage nor the stormwater drainage system is contaminated.

F10.2.1 Separation

Segregation of dirty and clean areas is imperative for good waste management. Areas that are likely to become contaminated must be separated from 'clean' areas as much as practical to minimise the pollution and the volume of wastes to be treated.

Segregation of clean and contaminated areas can be achieved by selective changes in surface gradients, the use of 'speed humps' or by the use of diversion and collection drains.

F10.2.2 Bunding

A bund is designed to contain spillages and leaks from liquids used, stored or processed above ground. As well as being used for prevention of pollution of the receiving environment, bunds are also often used for fire protection, product recovery and process isolation (refer to s. F3.2.2 in this appendix).

F10.2.3 Collection drains

Collection drains must be constructed to ensure ease of inspection and cleaning. The grates must be easily removed, and the pit must be wide enough so that accumulated solids can be easily removed.

F10.2.4 Diversion drains

Diversion drains such as 'spoon drains' can be used to divert stormwater away from contaminated areas, minimising the volume of water over the contaminated area.

F10.2.5 Speed humps

Speed humps can be used to segregate a potentially contaminated area from clean areas and as a form of containment where relatively small spills are likely to occur or a more substantial structure is not practicable.

F10.3 Open areas

Under clause 137A of the Local Government (General) Regulation 2005, the discharges of roof, rain, surface and seepage water or groundwater to a sewerage system is prohibited unless specifically approved. Therefore, councils do not generally accept the discharge of such waters into the sewerage system. The capacity for such flows is not provided in the sewerage system.

Acceptance of limited quantities of first-flush water from liquid trade waste areas may be considered only if roofing cannot be provided due to safety or other important considerations. This water must only be accepted in special circumstances and needs to be decided on a case-by-case basis.

Liquid trade waste applications requesting the discharge of first-flush stormwater to the sewerage system need to be forwarded to the Water Utilities Branch of the Department of Planning, Industry and Environment for concurrence to council's approval. Assumed concurrence to council's approval is not available for such discharges (refer to ss. 1.9.1 and 5.1.2 of these guidelines).

The following information needs to be provided to the department together with the application for discharge of first-flush stormwater run-off to the sewerage system:

- reasons why the area cannot be roofed
- the size of the open area requested for consideration of first-flush water to the sewerage system
- whether the area is sealed
- the estimated volume of the first-flush water in cubic metres
- information on rain gauging and stormwater diversion to the drainage system after the first flush is accepted.

If first-flush water is accepted, the proposed open area must be sealed. Discharge from an unsealed area is not allowed. The first-flush water has to be collected in a holding tank, treated in accordance with the approval and discharged at a controlled rate after the rain has stopped. The area must be kept clean and needs to be hosed down after each use.

Discharge from small open wash bays (less than 25 m^2) may be permitted without a first-flush system subject to council's approval and the department's concurrence. Local factors, such as average rainfall in the area and the availability of spare capacity in the sewerage system need to be taken into account when considering approval for such discharges. The proposed area must

be sealed and bunded. The wastewater collection pit must be covered with a lid and kept closed when the washing operation is not being carried out. The area must be kept clean between washing operations.

F10.3.1 Installation requirements for open wash bays

In general, all open areas, if proposed to be connected to sewer, must be raised/graded in a manner to divert uncontaminated stormwater away from a wash bay, or contained by a trafficable bund. The first-flush collection system must have controls incorporated into the design to ensure that only the pre-determined volume of stormwater is discharged into the sewerage system.

A schematic layout of a first-flush stormwater collection system for an unroofed wash bay is shown in Figure F6. The requirements for the system are as follows:

- a silt arrestor (pit A) is to be installed. If the open area or the equipment washed are likely to get laden with mud, a settling pit must also be provided.
- pit B is used for diverting excess stormwater to the stormwater drainage system after the pre-determined volume of first-flush water is collected in pit C.
- the capacity of pit C (to top water level) must be equal to the volume of stormwater collected in a catchment of the open area (in square metres) covered to a depth of 10 mm.
- the pump from pit C to the wastewater pre-treatment system needs to be electronically interlocked to an external control device to ensure that the discharge ceases during wet weather.

Examples of external control devices are a:

- flow switch fitted on a dedicated water supply to the washing system that will allow the pump to operate only while the washing system is in use. The washing system must not be used during wet weather.
- rainfall gauging device set to isolate the power supply to the sewer discharge pump after a pre-determined level of rainfall has been registered. Alternatively, manual activation of the pump would be acceptable for small installations. Washing must not be carried out and the pump must not be activated when it is raining.

F10.3.2 How the first-flush system works

When it rains, run-off generated in the contaminated area needs to be directed to the first-flush collection pit (pit C) via a silt arrestor. Once the pit is full, any excess stormwater run-off will be diverted through pit B to the stormwater system via the bypass drain.

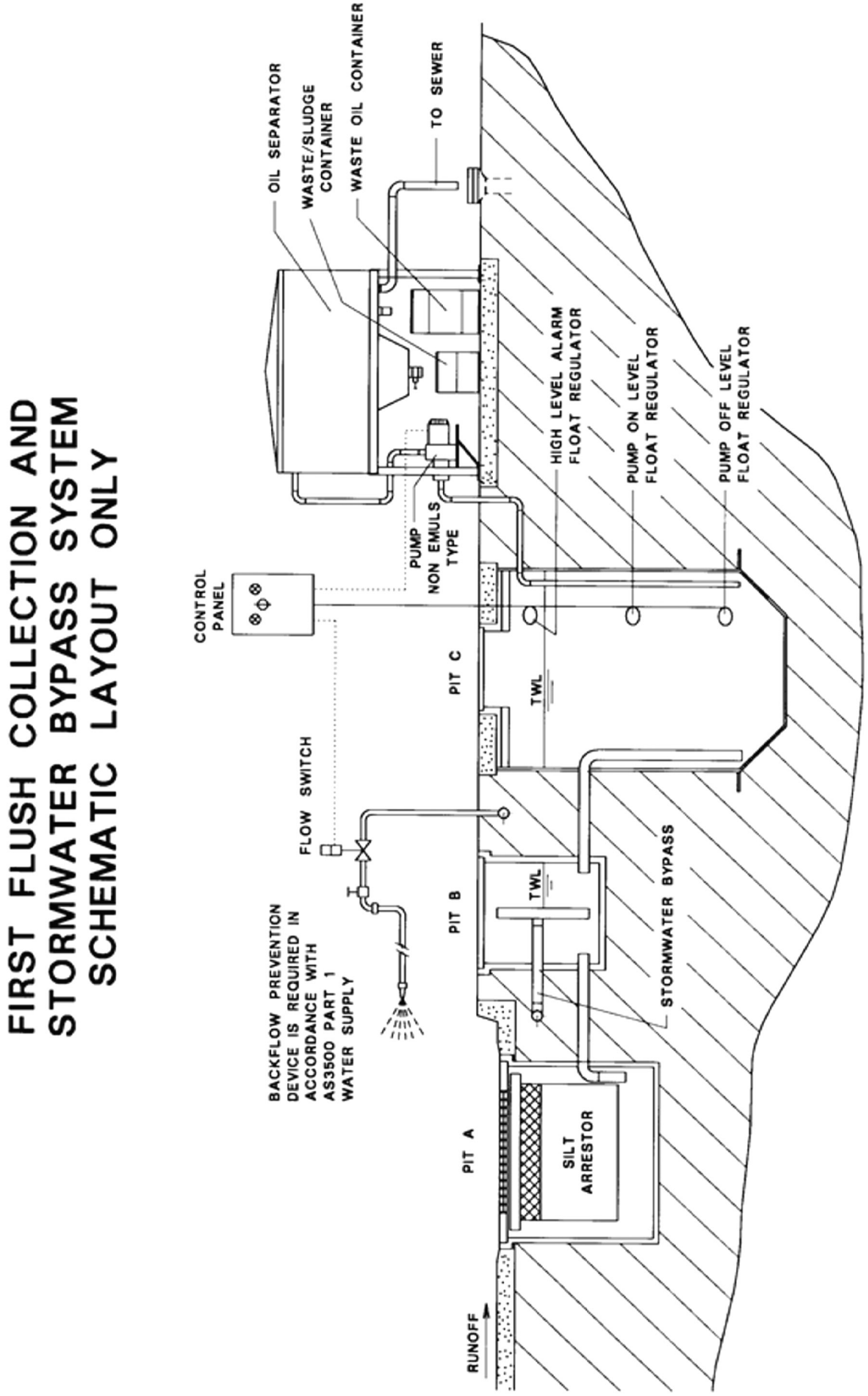
Stormwater collected (pit C) must be directed to liquid trade waste treatment facilities. The first-flush run-off must not be pumped to the sewerage system for at least one hour after the cessation of rain. When the rain has stopped and operation is completed, the pit needs to be cleaned out, if required, and made ready for routine operation.

Any wastes collected in the system such as sediments or oil must be disposed of in the same manner as wastes from pre-treatment facilities and must not be discharged to sewer.

F10.4 Open areas in large or industrial premises

Large/industrial premises may have open areas that cannot be covered due to technical or other important considerations. Such applications will be assessed on a case-by-case basis. All information including the proposed pre-treatment of collected stormwater and council's assessment needs to be forwarded to the department.

Figure F6. First-flush collection and stormwater bypass system



F11 Housekeeping practices

The performance of pre-treatment equipment and its cleaning frequency is governed by the quantity and quality of wastewater. The following housekeeping tips may be helpful in reducing waste products discharged to the pre-treatment equipment and may result in improving its performance.

If these suggestions are followed, the pump-out frequency can be reduced, blockages in drains may be avoided and money can be saved.

F11.1 Kitchen-type waste

- Use water sparingly and efficiently. Recycle whenever possible.
- Use aluminium foil to collect grease and oil spills around stoves, fryers, etc.
- Use minimal oil and fats for cooking.
- Use detergent sparingly.
- Place screens on sink drains to keep solids from washing down the drain.
- Scrape cooking utensils and plates before washing.
- Place a container under the outlet of cooking vats used in barbeques, charcoal and rotisserie appliances to collect fat, if such an appliance is not connected to the sewer.
- Provide a fat/oil interceptor where required.
- Use a broom or mop for washing floors, not the hose.
- Do not put coffee grounds or tea leaves down the sink.
- Collect oil and fats and dispose of separately through an authorised oil and fat recycler.
- Store fresh and used oil and cleaning chemicals in an area where any spillage cannot drain into the sewerage system.

F11.2 Workshops, garages, service stations, etc.

- Ensure that the wash area is covered and bunded.
- Forecourt area must be roofed and graded to exclude stormwater.
- Dry sweep/clean the area before hosing.
- Make sure vehicles are completely within the bunded area before starting work.
- Use water sparingly. Install fine spray nozzles on a spray system to reduce water consumption.
- Use high pressure hoses or hoses with trigger nozzles for washing.
- Keep the ‘wet area’ to a minimum.
- Reuse water whenever possible.
- Use ‘quick break’ detergents for washing and reduce the amount of detergents used. This will enhance the separation of oil and water emulsion.
- Use cleaning products that have the pH of 7 to 10 when practical. Metals can dissolve if the pH of waste is higher or lower. In this form they are very difficult to remove without expensive pre-treatment and can cause damage to the environment.
- Use drip trays to catch oil. Plug any parts that tend to leak.

- Collect and store brake fluid, radiator fluid, motor oil and fuel in drums for off-site removal.
- Wash small parts in a solvent-based recycling parts washer. Solvents must be collected and disposed of separately.
- Ensure that kerosene, petrol and solvents are not discharged into the sewer, even in small quantities. Drain parts over the solvent bath before hosing down.
- Drain oil and fluids from engines, gear boxes and other parts, before dismantling into storage containers. Do not discharge oil into the sewer.
- Store batteries in a bunded area where waste and spills drain to a blind pit.
- Do not discharge the contents of caustic baths and rinse into the sewerage system.
- Do not use caustic substance as a cleaner as it raises the pH of the waste.
- Store oil, solvents and cleaning chemicals in a bunded area not connected to the sewerage system. Arrange for the collection of oils, grease and solvents for recycling by a licenced contractor.

F12 Waste tracking systems

It is recommended that councils have appropriate procedures in place to manage transported liquid waste within council's area irrespective of whether such waste is discharged to the council's sewerage system or not. This includes ensuring adequate maintenance of grease traps and septic tanks and preventing illegal dumping of the pump-out waste to the sewerage system or the environment. This is particularly important as there is no requirement for the transporters of septic waste and grease trap waste to hold NSW EPA licence when transporting such waste within NSW.

Accordingly, councils need to implement a waste tracking system, which may be either electronic or manual.

F12.1 Electronic tracking system

Liquid waste transport contractors are pre-issued with bar-coded personal identification cards and identification cards for their customers. These cards are scanned, and the waste is measured at the receiving facility after each delivery. The contractor then electronically sends the delivery information directly to council for processing. The system can be used for tracking grease trap waste as well as transported human waste from, for example, septic tanks.

F12.2 On-line tracking system

There are on-line waste tracking systems on the market used for tracking, monitoring and managing transported waste. These systems can be used by councils and liquid waste transporters to monitor servicing of pre-treatment and on-site treatment devices such as grease arrestors, septic tanks, etc., and to ensure appropriate disposal of these wastes. The systems use on-line applications that can be downloaded on a workstation, tablet or smart phone.

F12.3 Manual tracking system

This is typically a multi-docket waste system that involves a book of coded dockets supplied to licenced waste transporters and waste generators. The multi-docket system relies on three parties completing their respective sections of the same docket: the waste generator; the waste transporter; and the waste receiver.

The waste transporter gives one section of the docket to a waste generator after servicing the facility and submits duplicate and triplicate sections of the docket at a receival facility. The transporter must record the date and volume of pump-out waste and the docket sections are forwarded to council.

A council officer matches the coded copies of multiple dockets in order to determine that the pre-treatment equipment is serviced at the required frequency and that the waste was transported to an appropriate facility.

F13 Sampling and flow measurement

F13.1 Sampling point

In general, a readily accessible sampling point must be provided immediately after pre-treatment facilities at a point prior to mixing with domestic wastewater by each liquid trade waste discharger. However, if a site has a number of sources of liquid trade waste, individual sampling points are required for each waste stream, as the waste may be tested for different parameters.

The above requirement is particularly relevant for sites with multiple activities, such as a restaurant, cheese maker and microbrewery on one site. An approval for such premises will include some specific quality-related conditions, such as pH correction. Accordingly, separate sampling points will be required for each liquid trade waste stream in order to monitor each stream for compliance, identify potential issues and necessary pre-treatment, and for charging purposes (where applicable).

It is important to ensure that the sample is representative of the discharge to minimise the risk of obtaining incorrect information as such incorrect information could result in incorrect charges or other inappropriate actions applied to a discharger.

The sampling point must not be located at a position such as a long horizontal run, where it is possible for the flow to separate into layers. Ideally, the sampling point should be immediately downstream of the pre-treatment plant where the flow is well mixed (for example downstream of a major change in direction).

The sewer inspection box at the sampling point needs to be a minimum of 150 mm in diameter and appropriately sealed, such as with a rubber ring and screw-down cover.

F13.1.1 Grab samples

A discrete or a grab sample is a single sample taken at a particular time. It may be obtained by using a wide-mouthed plastic sampling jar attached to a pole. Alternatively, a dipper attached to a nylon cord can be lowered into the waste stream (however, with this method, control of the collection dipper may be difficult).

Care should be taken not to scrape the walls of tanks, pits, traps, etc. in order to avoid dislodging unrepresentative matter into the sample. If possible, the sampling jar needs to be fully immersed to about the middle of a flow stream. The contents of the sampling jar should be then transferred to an appropriate sample container. Councils need to consult a laboratory in regard to appropriate sample containers and preservation techniques for each type of test.

F13.1.2 Composite sample

In order to obtain a composite sample, a large number of discrete samples of equal volume are taken on a time- or a flow-proportional basis and mixed together. A sample is then taken from the mixed wastewater. This sample represents the average concentrations of pollutants in liquid trade waste discharge over the period, for example over 24 hours.

Council may require some large dischargers to install an automatic sampler or provide a system or facilities that allow collection of a flow-weighted composite sample.

It is recommended that automatic samplers have individual bottles (for example 24 bottles for 24 samples) as opposed to one large central bottle for collection of samples. This will allow testing of samples in each bottle, where appropriate. For example, checking the pH in each bottle on-site would show the trend during the sampling period. The samples then can be combined to form a representative sample for each period as described above.

Figure F7. Refrigerated sampler

F13.2 Dye test

There may be instances where a council officer and/or the discharger may need to find out whether specific waste streams or processes are actually connected to the liquid trade waste pre-treatment system and not being directly discharged to the sewerage or stormwater systems. In these situations, fluorescent dye, such as rhodamine-B (also known as fluorescein) is added to the pipework or pre-treatment unit, and the system is examined for evidence of dye appearance.

In cases where the waste with the added fluorescent dye is discharged to the sewerage system, the receiving sewage treatment works must be notified so it would not be misinterpreted as an illegal liquid trade waste dump.

F13.3 Flow measurement

Flow measurement for liquid trade waste discharges in Concurrence Classifications A and B is generally not required. An appropriate discharge factor can be used to estimate the volume of waste from the metered water usage based on relevant information (refer to Appendix G in regard to establishing discharge factors).

Where flow measurement is required, council may ask the discharger to:

1. install a permanent flow measurement device on-site where:
    - the primary measurement device and instrumentation is installed in a location that excludes the domestic wastewater
    - the flow meter is calibrated on-site with instrumentation and methods in accordance with national standards through a NATA registered laboratory
    - the calibration is carried out at intervals not exceeding 12 months and certificates are provided to council on request.
    - flow measuring equipment is inspected regularly as per manufacturer's recommendations
    - a facility for an interface between the flow metering instrumentation, automatic sampling equipment and data logger/recording equipment is provided.

    Note:
    Water meters are not suitable for measuring liquid trade waste discharge because they are constructed of different materials and corrode in wastewater.

2. install a flow measurement device on a temporary basis.

    A temporary installation is used to obtain sufficient data to determine a factor for establishing the flow rate and volume.

    To exercise this option, the discharger needs to provide a primary measurement device, such as a gauging pit with a weir or flume or an in-line flowmeter pipe fitting and a suitable 240 volt AC power point. This will provide an opportunity for council to verify the discharge factor when necessary.

F13.4 Flow measurement instrumentation

F13.4.1 Inflow measurement

F13.4.1.1 Water supply meters

For businesses in the commercial and industrial sectors, town water meters used for charging for incoming water can also be utilised for:

- testing for leaks within a site
- establishing a sewer discharge factor
- establishing a discharge factor for the liquid trade waste component only.

F13.4.1.2 Digital ('smart') meters

Digital ('smart') meters are an innovative technology that records the volume of water consumption at a customer's water meter and transmits the data for billing, problem identification, reporting and analysis.

This technology is increasingly being used by water utilities in Australia and overseas. Digital meters enable a better understanding of a customers' water use in real time, which will help to detect leaks, ensure accurate meter readings and identify abnormal water use patterns.

The installation involves attaching a data logger (the digital meter component) to the existing customer meter. The data logger records water consumption and transmits the data for billing and data analysis to council's system. Data loggers can assist in determining water, sewerage and liquid trade waste charges.

F13.4.1.3 Check meters

These types of meters can be installed on the water supply mains to different activity areas within a site in order to establish actual volumes of water provided to each activity, and to assist estimation of the discharge volumes to the sewerage system.

Check meters are particularly useful to:

- measure water that is not discharged to the sewer (e.g. town water used in irrigation of sport fields, lawn bowls, landscaped areas, etc.)
- establish water usage in cooling systems and boilers where a large portion of the water is evaporated and not discharged to the sewerage system
- establish the amount of water used in product within a factory (e.g. water used to top up water containers, soft drink manufacturing)
- establish a trade waste discharge factor where a liquid trade waste discharge represents a small percentage of the total discharge from the premises (e.g. a cafe in a large holiday resort)
- help calculate liquid trade waste charges for multi-activity premises (e.g. shopping centres).

F13.4.2 Outflow (discharge) measurement

F13.4.2.1 Electromagnetic flow meters

In a magnetic flowmeter, a magnetic field is generated and channelled into the liquid flowing through the pipe. Flow of a conductive liquid through the magnetic field will cause a voltage signal to be sensed by electrodes located on pipe walls. The generated voltage is proportional to the movement of the flowing liquid, so when the fluid moves faster, more voltage is generated. The electronic transmitter processes the voltage signal to determine liquid flow.

The meter is intended for use in a full-pipe installation. The equipment must be installed only by a qualified specialist and the calibration/verification of the flow meter must be carried out on the site after the installation. The maintenance needs to be carried out in accordance with the manufacturer's recommendations. To maintain integrity of the flow meter, all pipework needs to be regularly maintained.

F14 Liquid trade waste inspections

F14.1 Site inspections

A liquid trade waste site inspection is an inspection of premises discharging liquid trade waste to a council's sewerage system, with the aim of monitoring and auditing the discharger's compliance with the terms and conditions of a liquid trade waste approval. Liquid trade waste site inspections need to be conducted on a regular basis.

Generally, council can conduct:

- an initial site inspection
- routine site inspections
- re-inspections
- site meetings/visits.

F14.2 Entry onto premises

Under ss. 191 and 191A of the Local Government Act, a council employee may enter liquid trade waste premises. Under s. 143 of the Local Government (General) Regulation 2005, council may inspect any drain connected to a sewer main, install devices for measuring the quality and quantity of sewage discharged from the premises, and inspect any pre-treatment devices connected to council's sewerage system.

Companies are required to be aware and responsible for all staff and visitors on their premises for the purposes of legal issues, risk management, work health and safety, security, asset protection, fire evacuation procedures, product sterility and insurance issues. It is for such reasons that companies insist that all visitors to the premises announce their presence upon arrival. In addition, there may be a requirement to wear specific safety equipment and/or to be escorted around the premises.

F14.3 Outcomes from a site inspection

F14.3.1 Initial inspections

Initial inspections are ideally performed prior to the commencement of discharge to the sewerage system to ascertain that all requirements will be met.

The initial inspection may confirm that the pre-treatment facilities have been installed:

- with appropriate equipment in accordance with approval
- in accordance with the regulatory framework and council's requirements and with manufacturer's specifications
- in the approved location
- with consideration to stormwater issues.

The initial inspection also provides an opportunity to:

- obtain an initial sample, if applicable
- confirm the installation of flow metering equipment, if applicable
- establish initial pre-discharge meter readings (discharge meter and potable water meter)
- confirm the adequacy of the sampling point in regard to:
    - safety
    - location
    - accessibility
    - proximity to potable water outlet for washing
    - electrical outlet—if required for metering or automatic sampling
    - other applicable requirements.

F14.3.2 Routine site inspections

Routine site inspections are performed on a regular basis as part of council's due diligence responsibilities. All liquid trade waste discharges need to be inspected at least once per year. Some require more frequent site inspections, particularly where non-compliance is evident.

Site inspections perform a number of functions such as:

- confirmation that all conditions of an approval or liquid trade waste agreement are being met
- confirmation that the business is still operating as approved and there is no change of work practices and/or alterations that may affect waste quality
- confirmation that any renovations/refurbishments of the premises have not compromised the pre-treatment system (increase in production or change of product)
- recording of meter readings for compliance and charging purposes
- sampling of a discharge to the sewerage system
- inspection of the installed pre-treatment system to ascertain that it is operating correctly
- inspection of log books (breakdowns, incidences etc.) or records (charts, meter readings, etc.) that may alert the liquid trade waste officer to incidences
- verifying maintenance records for the regular cleaning and pump-out frequency of liquid trade waste pre-treatment equipment
- inspection of records of any residual waste disposal (e.g. sludge, etc.)
- discussing with the discharger any liquid trade waste issues, such as waste management, and opportunities for cleaner production or reuse.

F14.3.3 Inspection of food preparation premises

The pre-treatment equipment at commercial hot food preparation premises needs to be maintained regularly (pumped out at a regular interval approved by council). If a waste tracking system is not in place, council may need to inspect premises at least once or twice a year, and require the discharger to produce evidence that the pre-treatment equipment has been properly serviced between the inspections. This can be done by providing pump-out dockets, invoices from service contractor, etc. Refer to s. F12 of this appendix.

F14.3.4 Blockages associated with high oil and grease

There is a record of demonstrated sewer blockages and chokes due to the discharge of untreated or poorly treated greasy/oily waste to the sewerage system. As noted in chapter 8 of these guidelines, if council's inspection reveals that the pre-treatment equipment has not been properly maintained, a non-compliance trade waste usage charge should be applied for the billing period.

Re-inspections are required where incidents or breaches have occurred on a previous inspection or notification. A re-inspection fee should be applied as indicated in s. 8.3.

The re-inspection may ascertain that:

- the non-compliance has been rectified
- procedures have been initiated to prevent re-occurrence
- steps have been taken to modify the pre-treatment
- steps in an effluent improvement plan have been completed
- a discharge may or may not be from the premises as the result of a pollution inquiry investigation such as a dumping incident.

Site meetings/visits are specifically performed as an opportunity for council and the discharger to discuss any liquid trade waste issues, such as:

- liquid trade waste management
- follow-up discussions on an effluent improvement program
- opportunities for cleaner production or reuse
- due diligence and contingency plans
- variation to an existing approval or liquid trade waste agreement
- due to the impending expiration of the term of approval, re-negotiation of the conditions of approval or liquid trade waste agreement
- any other issues that may impact on the discharger.

Examples of oil and grease blockages

F15 Liquid trade waste plumbing and drainage connections

Liquid trade waste pre-treatment equipment must be installed in compliance with the National Plumbing and Drainage Code AS/NZS 3500 Part 2 (Sanitary Plumbing and Drainage), Plumbing Code of Australia and local authority requirements.

Schematic diagrams of typical liquid trade waste plant installations with sanitary plumbing connections are provided on the council only web page as a guide to council's staff.

Appendix G
Discharge factors

Discharge factors are used for estimating the volume of wastewater discharged to the sewerage system where the discharge is not measured. A discharge factor represents the percentage of the metered water consumption discharged to the sewerage system from a premises. There are two types of discharge factors:

- sewer (SDF)
- liquid trade waste (TWDF).

G1 Sewer discharge factor

The sewer discharge factor is the ratio of all wastewater discharged from a premises to the sewerage system to the total water consumption, expressed as a percentage. This factor is used for calculation of the sewerage bill (refer to s. 8.2 of these guidelines).

$$SDF = \left(\frac{\text{Domestic + Liquid Trade Waste}}{\text{Total Water Consumption}} \right) \times 100$$

This factor also includes water that has not been acquired from the town water supply, but is discharged to the sewerage system, such as:

- a stormwater first-flush system
- bore water
- rainwater collected and used in processes (e.g. washing)
- water generated by some industrial processes (e.g. condensate produced from an evaporation process).

G2 Liquid trade waste discharge factor

The liquid trade waste discharge factor is the ratio of the volume of liquid trade waste discharged into the sewerage system to the total water consumption, expressed as a percentage. This factor is used for calculation of trade waste usage charge for liquid trade waste dischargers in Category 2 (refer to s. 8.3.4 of these guidelines).

$$TWDF = \left(\frac{\text{Liquid Trade Waste}}{\text{Total Water Consumption}} \right) \times 100$$

Notes:

1 Where a large volume of first-flush run-off from an open area is discharged to the sewerage system, the discharge volume needs to be established by a method acceptable to council.

2 When calculating sewer usage volumes, a rough estimate of the domestic flow may be made by allowing 80 L/d per person for a business where employees are taking a shower daily at the premises. Otherwise use 30 L/d per person.

The sewer and liquid trade waste discharge factors can be determined by:

- carrying out a water balance assessment taking into account any additional water supply sources[42] (such as bore water, rainwater) and the volume of water not discharged to the sewerage system, (for example garden watering, water consumed in a product)
- using check meters installed on dedicated water supply lines for liquid trade waste areas and applying a suitable factor to the water consumption recorded by the check meter. For example, if a check meter is installed on a kitchen line, it only measures the water supplied to the kitchen area that generates liquid trade waste. When determining a suitable factor, an allowance needs to be made for water consumed in a product. In this case, the trade waste discharge factor (TWDF) should be about 90% of the meter reading in order to allow for water consumed in food and drinks.
- using check meters installed on water supply lines for areas where water is not discharged to the sewerage system, such as gardens and sport fields
- using agreed site-specific discharge factors
- measuring the actual flow to the sewerage system.

Note:
Where the daily liquid trade waste discharge is less than 20 kL/d, installation of a flow meter to measure the discharge flow is generally not required. However, for some discharges, installation of a flow meter would be required even if the daily discharge is less than 20 kL.

To assist councils, guidance values of sewer and liquid trade waste discharge factors for various activities are provided in the department's password protected website. If council has more accurate flow data, such data must be used instead of the information provided in the above table.

G2.1 Site-specific data

It is important when making an assessment for discharge factors, to consider site-specific factors that may affect the discharge volume. For example, many small commercial premises, such as bakeries, butchers, fish shops, hairdressers, vets, etc. may have residential premises attached. In such cases, an allowance needs to be made for water uses in a residential part of the joined premises and garden watering. Also, councils may apply its typical residential sewer discharge factor for houses to the whole premises. The liquid trade waste discharge factor needs to be then reduced proportionally.

When calculating a discharge factor, consideration should also be given to:

- cooling tower evaporation loss
- boiler evaporation loss
- water recycled/used for other purposes (e.g. landscaping/gardening, dust suppression)
- water used in products, such as water used to top up water containers, in soft drinks, tea/coffee, etc.
- first-flush stormwater run-off where approved
- seasonal variations
- make-up water used in processes and not discharged to the sewer (e.g. in an electroplating bath)
- water retained on-site.

42 Provisions should be made for metering of alternative (non-potable) water supply, (e.g. bore water, stormwater, recycled water) in existing, where practical, and all new developments.

In general, if a commercial premises has a large garden, a sewer discharge factor can be reduced by about 10% compared to a similar business without a garden. This allowance may not be sufficient for a golf club, a bowling club or sporting fields, if potable water is used for watering playing fields. It is recommended that a sub-meter or a check meter be installed on water supply lines to such areas in order to determine a site-specific sewer discharge factor.

Sewer and liquid trade waste discharge factors may also vary for wet and dry climatic conditions. In wet, cold climates, most of the water is discharged into the sewer as the outdoor use is at its lowest. Water usage is higher in a dry, hot climate, but the sewer discharge factor would be lower due to the increased outdoor use and higher evaporation rates. The difference could be up to 30%.

However, the above impacts are site-specific, and this needs to be determined by taking into consideration the size of the outdoor area and the type of activities.

For example, a large motel/resort may have a restaurant, a laundry, swimming pools, a spa, large landscaped areas and even a carwash facility. In this example, a liquid trade waste usage charge is applicable only to the discharge from the restaurant. If a standard trade waste discharge factor is applied to the main water meter reading, it may result in relatively high (and incorrect) liquid trade waste charges due to high water usage by multiple on-site activities. Therefore, a site-specific trade waste discharge factor needs to be established for the discharge from the restaurant only. This can be done by installing a secondary water meter or a check meter on a water supply line servicing the restaurant kitchen only. Alternatively, a site-specific trade waste discharge factor can be agreed on by using information on water usage by appliances/fixtures.

G2.2 Premises with multiple liquid trade waste streams

Examples of premises with multiple waste streams include shopping centres, hospitals, tertiary educational facilities, and correctional centres.

For the assessment of an appropriate trade waste discharge factor, council needs to identify the activities to which the trade waste usage charge is applicable (for example food premises that prepare/serve oily greasy waste) and estimate a site-specific trade waste discharge factor.

G2.2.1 Shopping centre

In a shopping centre, the centre management is responsible for paying water and sewerage bills and it may divide the bill between the shops as appropriate.

In general, shopping centres have shops that discharge liquid trade waste (such as a supermarket, takeaway shops, cafés, hairdressers, etc.) and shops that do not. There could also be a car wash facility located in a car park that discharges significant volumes of water, but no trade waste usage charge is applicable to this discharge. In most cases, the trade waste usage charge is only applicable to discharges from hot food preparation/serving in the centre. Therefore, it is recommended that a site-specific trade waste discharge factor be established on a case-by-case basis.

If a single liquid trade waste bill is issued to a shopping centre, council needs to take into account the proportion of shops to which a trade waste usage charge is applicable to the total number of shops. Applying a general trade waste discharge factor to the metered water supply may result in relatively high liquid trade waste charges due to high water usage by some activities (like a car wash facility or a coin-operated laundromat). A check meter installed at the water supply to shops with activities where the trade waste usage charge is applicable, for example a food court (refer to s. 8.3.4 of these guidelines), would assist councils in the calculation of a site-specific trade waste discharge factor. An example of such calculations is provided on the department's password protected website.

Some councils issue individual bills to each shop in the shopping centre. In such cases, sewer discharge factors and trade waste discharge factors relevant to each liquid trade waste stream can be applied. However, individual water meters/check meters may need to be provided for such shops.

G2.2.2 Hospitals and educational facilities

There are a number of activities in these facilities that generate liquid trade waste. However, similar to shopping centres, the trade waste usage charge is applicable mainly to discharges generated by hot food preparation/serving.

Food service in hospitals and educational facilities is often carried out by an outside contractor, for example takeaway food outlets in the educational facilities. Council may consider issuing a separate liquid trade waste bill to such shops. It may require an individual water meter or a check meter to be installed at the relevant service line.

G2.2.3 Strata titled complex

A strata titled complex with only one town water meter service connection may have a combination of shops that do or do not discharge liquid trade waste.

For example, the complex may have:

- shops with no liquid trade waste (e.g. a dress shop, newsagency, etc.)
- shops that discharge liquid trade waste, but fall into charging Category 1, hence a trade waste usage charge is not applicable even though they are significant water users (e.g. a car wash, hairdresser, florist, etc.)
- shops that fall into Charging Category 2 where a trade waste usage charge is applicable (e.g. restaurants, takeaways, café, etc.).

To assess the discharged volume, council may consider:

- installing separate town water meters or check meters on pipelines servicing shops that discharge liquid trade waste and applying the appropriate sewer discharge factor and trade waste discharge factor to each meter
- conducting water assessments on individual shops in regard to their activities, which enables the calculation of site-specific sewer discharge factors and trade waste discharge factors.

Calculations of sewer and liquid trade waste discharge factors based on readings of one town water meter will inevitably result in inaccuracies and erroneous sewerage and liquid trade waste bills for individual businesses. Accordingly, it is recommended that sub-meters or check meters be installed on pipelines servicing individual shops where water is used for liquid trade waste generating activities and/or areas where significant volumes of water are used, such as landscape watering. An example of calculations of sewer and liquid trade waste discharge factors where check meters are installed is provided on the department's password protected website.

G2.2.4 Other premises with multiple activities

As described in s. 8.3.9.4 of these guidelines, there are some premises where various businesses are located on the same site, for example a premises that includes a restaurant and 'boutique/ artisan food type' businesses, such as chocolate making or condiment making, all under the same owner. Such premises may be served by one town water meter.

A default value for the sewer discharge factor of 95% may be used for premises with no landscaping and 90% with landscaping. However, in some businesses, a significant volume of water may be used in a product, and not discharged to the sewerage system, such as in a microbrewery. In such situations, the water usage and/or the discharge volume needs to be assessed by a business and a site-specific sewer discharge factor be established.

Individual water meters or check meters need to be provided for establishing a trade waste discharge factor for each discharge where a trade waste usage charge is applicable. Note that flow measurement may be required for discharge from some businesses on such sites.

It is acknowledged that reading meters at multi-activity premises at regular intervals by council staff may not be practical. However, regular readings can be done by an owner/operator of the facility and reported to council. Adjustments to the bill can be done by council on an annual basis. Alternatively, a photo of a water meter reading can be provided to council by an owner/ operator. If a digital ('smart') meter has been installed, the water consumption will be recorded and transmitted to the council's system (refer to s. F13.4.1.2 of Appendix F).

Appendix H
Due diligence program, contingency plan and effluent improvement plan

Businesses discharging liquid trade waste to the sewerage system that are assessed as having the potential for a high risk to the sewerage system and/or the environment, or fall into Concurrence Classification C, must have a due diligence program and contingency plan.

These dischargers need to submit a due diligence program and a contingency plan with any new application or variations to their approval, as a condition of their approval. This does not apply to low- and medium-risk liquid trade waste (Classifications A and B) unless special circumstances prevail or additional conditions are imposed.

These plans are normally submitted to council within three months for a contingency plan, and six months for a due diligence program, from the commencement of the discharge or approval of the variation. However, in instances that pose a potential threat to the sewerage system, these plans are required to be submitted as early as possible. It is not necessary for council to forward these plans to the department, unless council wishes to obtain advice or comment from the department.

If a business has an environmental management plan (EMP) in place, such as an accredited ISO 14001[43] program, it may not be necessary to provide these documents because the EMP would normally be sufficient to acknowledge the company's environmental due diligence.

However, the EMP may not include all necessary provisions in regard to liquid trade waste. In such cases the department may require that the due diligence program and the contingency plan be developed and submitted to council.

This appendix sets out the recommended minimum requirements to be included in a due diligence program and contingency plan.

H1 Due diligence program

Due diligence means that companies and/or individuals must take all 'reasonable' precautions to prevent accidental and/or intentional discharges that are not authorised or may adversely impact on the sewerage system and/or the environment.

To exercise due diligence, a discharger must implement a plan to identify possible potential hazards and carry out the appropriate corrective action to prevent accidents or discharges of unauthorised liquid waste arising from these hazards. Due diligence is the level of judgement, care, prudence and determination that could be 'reasonably' expected under particular circumstances.

43 ISO 14001 is an international standard that specifies a management system to control the environmental issues surrounding a business. The system requires the organisation to produce an environmental policy, identify its major environmental effects and all environmental legislation applicable to the organisation; and in the light of this information, produce a series of environmental objectives and targets, and a management program for achieving these.

To ensure reasonable care and due diligence, it will at least be necessary to establish the following:

- supervision of the system at all appropriate levels
- periodic inspection of key parts of the system
- involvement by managers and other officers, including review of relevant reports
- instruction of relevant line management in the setting up of the system
- reporting to management of the operation and effectiveness of the system and demonstrated ability to react immediately if the system has failed
- reporting structure for issues of non-compliance, or any concerns raised by regulatory authorities
- training of officers in environmental compliance
- compliance with environmental laws.

A company's liquid trade waste due diligence program needs to incorporate, but not be limited to, the following:

- identifying potential or hazardous situations (asking 'What if this or that happens?', 'What action will be taken?' What, where, how, when for all situations: Predict, prepare, and practice)
- a staff training and awareness program
- environmental audit procedures
- ensuring that liquid trade waste discharged to the sewerage system complies with the conditions of approval
- ensuring there is no discharge of stormwater to the sewerage system
- maintenance schedule of pre-treatment equipment
- a flow meter capable of retaining its reading in the event of a power failure
- ensuring effective operation of pre-treatment equipment
- plant operator training
- standby procedures, including relief plant operator training
- work health and safety training
- a logbook (accessible to council) detailing maintenance and cleaning operations noting date, time and person making entry
- management of waste not intended or not permitted to be discharged to the sewerage system (e.g. sludge, prohibited substances, waste streams prohibited for discharge to the sewerage system), including:
    - contractor details
    - details of the receiving facility
    - a logbook (accessible to council) with collection dates, quantity and disposal locations.

H2 Contingency plan

A contingency plan is a set of procedures for responding to an incident that will affect the quality of liquid trade waste discharged to the sewerage system. The plan also encompasses procedures to protect the environment from accidental and unauthorised discharges to the stormwater drainage system from liquid trade waste discharges, and leaks and spillages from stored products and chemicals.

All dischargers need to develop, maintain and update as necessary a contingency plan for responding to situations that may arise infrequently at their premises, but would pose a threat to the environment or the sewerage system if allowed to occur without an adequately formulated response plan.

A company's contingency plan needs to incorporate, but not be limited to, the following:

- visual and audible alarms located in an area where it can be observed
- preventing overflows to the sewerage system in the event of an emergency
- a logbook (accessible to council) noting anything to do with an incident, including date, time, remedial action, other relevant facts and the person making the entry
- emergency procedures for:
    - an accident (nominated control officer and procedure plans)
    - a spill (clean-up procedures)
- a breakdown (may be necessary to carry stand-by equipment and spare parts such as pumps if these items are vital for the continuous effective operation of the pre-treatment system)
- a power failure or disruption (if this occurs, it is unacceptable to discharge untreated liquid trade waste)
- overloading or under-loading of wastewater treatment systems
- temporary unavailability of trained wastewater operators
- temporary loss of access to wastewater disposal areas
- storm, fire, floods
- alternative waste disposal procedures and/or an emergency storage if any of the above incidents occur
- a list of emergency contacts in priority order including phone numbers in an accessible location (business hours and after hours):
    - internal contacts
    - external organisations contacts (EPA, council, fire brigade, etc.).

Having a contingency plan in place and following it when such an incident or situation arises, enables better responses to incidents that may cause or threaten to cause harm to the sewerage system, the environment and worker or public health and safety.

H3 Effluent improvement plan

In instances where the liquid trade waste discharging from industrial premises to the sewerage system does not meet council's acceptance limits, improvements to the quality of liquid trade waste will be required. Applicants will need to submit a comprehensive effluent improvement plan setting out how the acceptance standards and/or other approval conditions will be met.

An industrial effluent improvement plan must include the following:

- a series of steps, each no longer than three months, that detail the methods proposed to improve the quality/quantity of the liquid trade waste discharge
- any incremental improvements expected in the quality/quantity of the liquid trade waste discharge
- the outcomes expected with respect to timeframes and liquid trade waste quality/quantity
- reporting milestones for each step in the effluent improvement plan
- a management plan outlining the nature (solid or liquid, containing chemical, food or metal residues) and mass (tonnes per annum) of waste substances expected to be produced as a consequence of the effluent improvement plan and the method/s proposed for the reuse, recycling, or disposal of these substances.

The effluent improvement program should not extend past a 12-month time frame, with for example, three months dedicated to each of the following major steps:

- a study and investigation of options
- obtaining approvals from the council
- installation
- training of staff and commissioning.

H4 Criteria for an effluent improvement plan

To assist councils to assess the validity of a proposal, the effluent improvement plan must meet the following criteria:

- It must address the nature and the quantity of waste substances that will be generated and the method/s proposed for reuse, recycling, or disposal of these substances.
- It must be clear and concise.
- No incremental step within the program should exceed six months in duration.
- Any incremental improvements in the quality and/or quantity of the discharge to the sewerage system must be documented.
- The guaranteed outcomes at the end of the program must be documented.
- It must avoid using unspecific words such as 'may', 'expected' and 'should'.
- The program needs to be definitive but not overly optimistic in terms of times or outcomes.
- The program should not be limited to the proposed timeframe, and efforts must be made to complete the program ahead of schedule, if possible.

Appendix I
Elements of the National Framework for Sewage Quality Management

The 12 elements of the National Framework for Sewage Quality Management as set out in the *Australian Sewage Quality Management Guidelines*, June 2012, WSAA, are listed below.

I1 Key elements components

I1.1 Commitment to sewage quality management

Element 1—Commitment to sewage quality management

- 1.1 Policies
- 1.2 Regulatory and formal requirements
- 1.3 Engaging stakeholders
- 1.4 Initial investigations

I1.2 System analysis and management

Element 2—Assessment of the hazards

- 2.1 Describing the sewage system
- 2.2 Setting specifications for sewage quality
- 2.3 Assessing the sewage system
- 2.4 Identifying hazards and hazardous events

Element 3—Risk assessment and control

- 3.1 Assessing risk
- 3.2 Risk acceptability and treatment
- 3.3 Review of risk management effectiveness
- 3.4 Control measures
- 3.5 Supporting programs

Element 4—Operational monitoring and control points

- 4.1 Operational monitoring program
- 4.2 Control points
  - 4.2.1 Critical control points (CCPs)
  - 4.2.2 Quality control points (QCPs)
- 4.3 Corrective and preventive actions
- 4.4 Equipment capability and maintenance

Element 5—Verification monitoring

- 5.1 Sewage quality monitoring program
- 5.2 Short term evaluation of data
- 5.3 Corrective and preventive actions

Element 6—Management of incidents and emergencies

- 6.1 Incident and emergency response protocols
- 6.2 Communication
- 6.3 Incident reporting

I1.3 Supporting requirements

Element 7—Employee awareness and training

- 7.1 Employee awareness and involvement
- 7.2 Employee training

Element 8—Stakeholder management

- 8.1 Customer and stakeholder awareness and involvement
- 8.2 Communication with stakeholders

Element 9—Research and development

- 9.1 Investigative studies, research and development
- 9.2 Equipment design and capability

Element 10—Documentation and reporting

- 10.1 Managing documentation and records
- 10.2 Reporting to internal and external stakeholders

I1.4 Review

Element 11—Evaluation and audit

- 11.1 Long-term evaluation of data
- 11.2 Validating processes
- 11.3 Audit of the sewage quality management system

Element 12—Review and continual improvement

- 12.1 Review by senior executive/managers
- 12.2 Plan for improving sewage quality management