



STANDARD **TRADE WASTEWATER AND** **LIQUID WASTE CARRIERS**

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CONTENTS

1. Purpose	5
2. Scope	5
3. Trade Wastewater Deeds	7
3.1. Apply for a Trade Waste Deed	7
3.2. Determination of Trade Waste Category	7
3.3. General Terms and Conditions Common to All Deeds	8
3.4. Transfer of a Deed	8
3.5. Refusal to Issue a Deed	9
3.6. Cancellation of a Deed	9
3.7. Deed Re-establishment	9
3.8. Change of Ownership	9
3.9. Term of Deed	9
3.10. Monitoring	9
3.11. Trade Wastewater Discharges within Multi-unit Complexes	10
4. Wastewater Tankering (Liquid Waste Carriers)	10
4.1. Tanking Deeds	10
4.2. Term of a Tankering Deed	10
4.3. Tanker Delivery Process	11
4.4. Right to Refuse Tankers	11
4.5. Wastewater Generated Inside Hunter Water Area of Operations	12
4.6. Wastewater Generated Outside Hunter Water Area of Operations	12
4.7. Industrial / Commercial Tankered Wastewater	13
4.8. Wastewater Tanker Non-Compliance	13
5. Trade Waste Non-Compliance	14
5.1. Obligation to Report Incidents to Hunter Water	14
5.2. Re-categorisation of Deed	14
5.3. Effluent Improvement Programs	14
6. Substance Definitions and Acceptance Limits	15
6.1. General Substances	15
6.2. Restricted Substances	17
6.3. Prohibited Substances	19
6.4. Substances to be Tested for Applications for Special Discharges	20
6.5. Adverse Effects of Non-Compliant Trade Wastewater	21
7. Special Discharge Requirements	22
7.1. Surface Waters or Groundwater	22
7.2. Discharge to Stormwater Systems	23
7.3. Mobile Food Vans	23
7.4. Sink-to-Sewer Waste Disposal Units	23
7.5. Use of Additives in Pre-Treatment Systems	24
8. Fees and Charges	24
8.1. General	24
8.2. Breach of a Deed and Rectification Work	25
8.3. Fee Structure for Each Category	25



8.4. High Strength Fees..... 25

8.5. Tanker Fees 26

8.6. Miscellaneous Charges 26

9. Typical Activities Generating Trade Wastewater 27

9.1. General Trade Wastewater Generators 27

9.2. Food and Beverage Trade Wastewater Generators 27

10. Installation and Maintenance Requirements for Trade Wastewater Facilities..... 28

10.1. Installation Considerations of Trade Wastewater Pre-Treatment Equipment 28

10.2. General Maintenance of Trade Wastewater Facilities 29

10.3. Food Premises Trade Waste Pre-Treatment Options 29

10.4. Petroleum / Oily Wastewater Pre-Treatment Devices..... 35

10.5. Plumbing and Drainage of Trade Wastewater Facilities 37

10.6. Cooling Pits, pH Dosing Pits and Lint Screens 39

10.7. Roofing of Trade Wastewater Generating Areas 40

11. Definitions, Acronyms and Abbreviations..... 42

12. Associated Regulations and Standards 43



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3	Greg Heaney (External Consultant)	<p>All Sections: Corrections and changes for currency and clarity.</p> <p>All Sections: Change TW Agreement to TW Deed.</p> <p>Section 3: Removed section, content moved to Section 2.</p> <p>Section 4: Removed Deemed Agreement; Added information about application process for TW Deeds.</p> <p>Section 5: Updated Tankering requirements and included information about Tankering Deeds.</p> <p>Section 6: Removed Deemed Agreement</p> <p>Section 7: Changed BOD and TSS Limits; Included PFAS compounds in Prohibited substances table with limit of below laboratory detection.</p> <p>Section 10: Included breweries and distilleries in the list of food and beverage premises; Moved 'General Pre-Treatment requirements for Trade Wastewater Generators' table to an Appendix and included breweries and distilleries in the list.</p>	Matt Hingston	13/10/23

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1. Purpose

Hunter Water is licensed to operate water, sewerage and stormwater drainage systems in the Newcastle, Lake Macquarie, Cessnock, Maitland, Dungog and Port Stephens Local Council areas. The Operating Licence is granted under the Hunter Water Act 1991. The sewer network areas of operation are shown in Figure 1 below.

The purpose of this Standard is to outline Hunter Water's requirements for the discharge of trade and tankered wastewater into Hunter Water's sewerage system and WWTWs. If you are a non-residential customer of Hunter Water, you are bound to meet and satisfy the requirements of the Trade Wastewater Policy, this Standard and any other requirements stipulated in a **Trade Wastewater Deed** or **Tanker Waste Deed** issued under Section 37 of the Hunter Water Act (1991).

Section 31 (1) of the Hunter Water Act (1991) makes it an offence to discharge substances to works owned by Hunter Water without the prior written agreement of Hunter Water:

Maximum Penalty: 100 Penalty Units (\$11,000) for an individual; or

Maximum Penalty: 200 Penalty Units (\$22,000) in the case of a corporation

The Act requires Hunter Water to observe three equally important principles:

1. To protect public health;
2. To protect the environment; and
3. To be a successful business

Section 6.1 of the Customer Contract 2022-27 requires customers to obtain a written Deed with Hunter Water prior to discharge of trade wastewater.

2. Scope

This Standard has been prepared for plumbers, consultants and property owners when selecting, designing and installing trade waste pre-treatment devices and connections to Hunter Water's sewer network. The Standard is applicable to both new and existing trade waste customers.

Hunter Water will provide a trade wastewater acceptance service to non-residential customers in accordance with the principles of environmental sustainability. This Trade Wastewater Standard specifies Hunter Water's requirements for the discharge of Trade Wastewater and Tankered Wastewater to the sewerage system and Wastewater Treatment Works (WWTWs).

Trade wastewater is defined as the liquid waste generated from any non-residential property (commercial or industrial, business, trade or manufacturing process) regardless of whether the wastewater is discharged to sewer or transported by tanker to one of Hunter Water's Wastewater Treatment Works (WWTW). It does not include domestic wastewater (i.e. water from toilet, hand wash basin, shower and bath wastes).

Section 4 of this Standard covers tinkered wastewater discharge to Hunter Water's WWTWs.

It is an offence under Section 31 of the Hunter Water Act 1991 to discharge any substance into a sewer or other works owned by Hunter Water without its prior written approval. Further, the Customer Contract specifically states that the discharge of trade wastewater will only be allowed with the prior express written permission of Hunter Water. The written permission will take the form of a Trade Wastewater Deed commensurate with the category of risk determined for the proposed discharge.

Hunter Water, and those customers permitted to discharge to its sewer systems, are also required to comply with requirements of the Protection of the Environment Operations Act (1997). Hunter Water may adopt more stringent acceptance limits and accordingly has listed them separately within this Standard.

Hunter Water's WWTWs are conventional municipal biological treatment processes designed to remove solids, organic matter and for some plants, nutrients. The WWTWs are not able to treat toxic and persistent substances, or contaminants hazardous to biological processes. Section 6 provides guidance on substances

acceptable to discharge to the wastewater system at levels within the capacity of the WWTWs and substances that are not to be discharged.

Based on the information supplied from the applicant, Hunter Water will determine the risk associated with the business activity, the proposed discharge regime, effluent quality and the characteristics of the discharge. Dependent on the associated risk level, Deeds may be offered with varying discharge requirements.

In all circumstances Hunter Water reserves the right to apply any requirements it deems necessary to control, limit or prohibit discharge of trade wastewater to its sewer system.

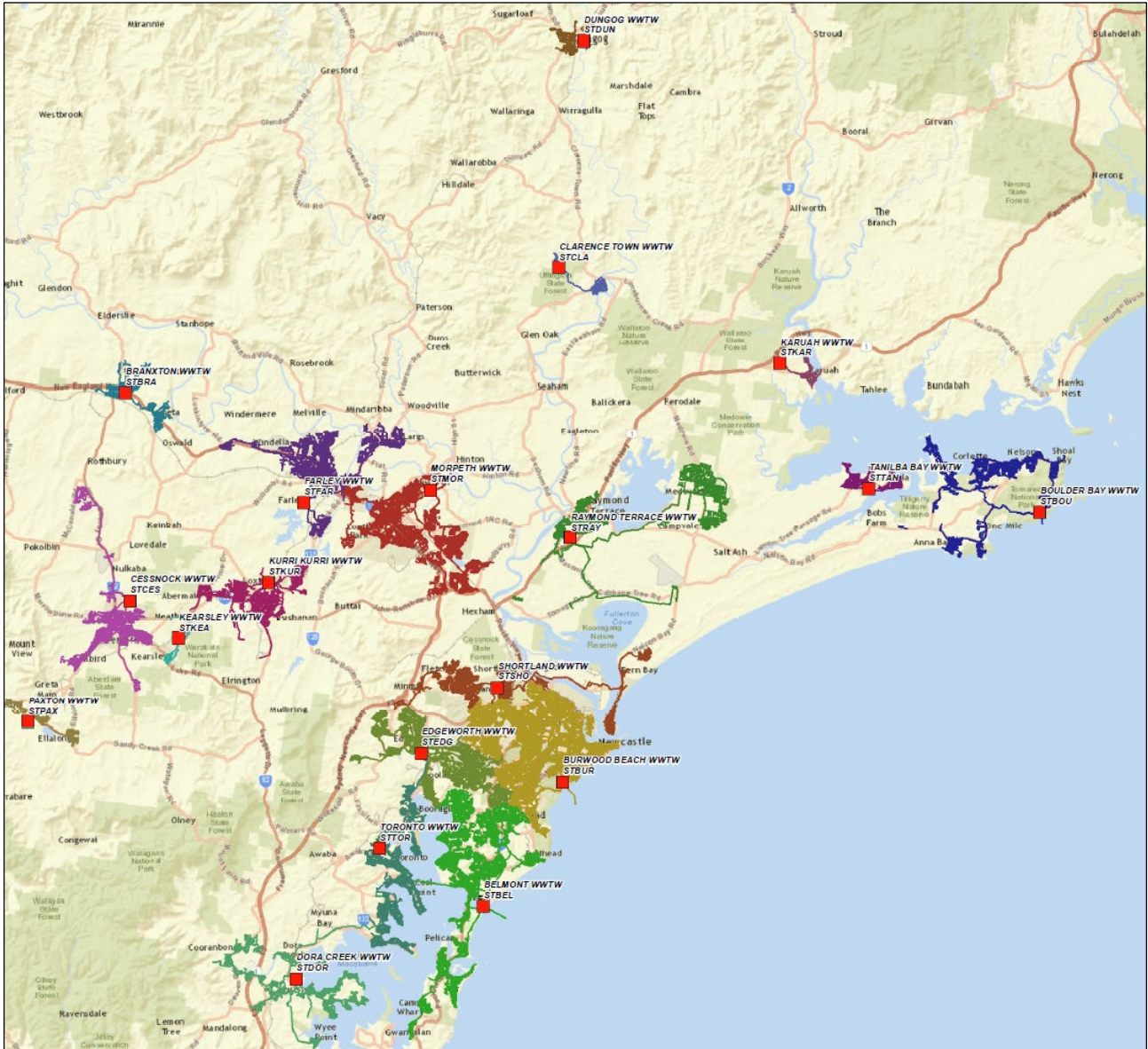


Figure 1: Hunter Water's Area of Operations – Sewer Networks and WWTWs



3. Trade Wastewater Deeds

Any premises that discharges non-domestic wastewater to sewer must have a current Trade Wastewater Deed (also referred to as a Trade Waste Deed) with Hunter Water. Some low risk business types are categorised as 'Deemed' and do not require a Deed (for example, hairdressing salons and non-food small retail). Proponents must contact Hunter Water to determine whether a Deed is required.

3.1. Apply for a Trade Waste Deed

Prior to issue of a Trade Wastewater Deed, the requirements of the Notice of Formal Requirements letter from Developer Services must first be satisfied, and Hydraulic Designs (where required) for internal water and sewer services be submitted to and approved by Hunter Water.

The property owner, or an independent agent representing the owner, may make the application. The property owner is required to sign the application. The application form is available to download from the Hunter Water Trade Waste web page: <https://www.hunterwater.com.au/building-and-developing/plumbers/trade-waste> or by emailing plumbing@hunterwater.com.au. Further detailed information about trade waste applications, including terms and conditions and fees, is available from the above site.

For customers with an existing Trade Wastewater Deed, it will be necessary for the owner to notify Hunter Water when the property is sold. This will then enable Hunter Water to cancel the Deed. The new owner is to make a new application to discharge trade wastewater to sewer if trade wastewater is generated on site or proposed to be generated on site.

At any time a business changes activity, owners or occupiers, and/or requires development consent from Council to do so, a new application to discharge Trade Wastewater to sewer must be made. Any changes to the nature or/and quantity of discharges, or equipment, at the site must be detailed in this application. This is to enable Hunter Water to assess potential impacts of changes.

3.2. Determination of Trade Waste Category

There are three categories of Trade Wastewater Deeds that reflect increasing levels of risk associated with trade waste discharges, due to strength and/or volume. The Category 1 Deeds represent the lowest risk, ranging up to Category 3 Deeds representing the highest level of risk.

Table 1 below defines the categories of trade wastewater discharge and the typical characteristics associated with each. This table is used to determine the likely risk category and therefore which category will be applied. Categories 1, 2, and 3 apply to trade wastewater customers that discharge directly to sewer. Business activities falling within Categories 1, 2, and 3 require a rigorous assessment commensurate with the increasing risk level.

The Trade Wastewater application must provide sufficient information for Hunter Water to allow the determination of potential impacts and the associated likelihood of these events occurring. A risk assessment is carried out to determine the most appropriate risk category. A more detailed risk assessment may be necessary, depending on site-specific circumstances. Hunter Water may request more information from the applicant to inform risk assessments.

An internal review process will be undertaken for each Trade Wastewater application to ensure that the requirements of Hunter Water, including this Standard, are applied consistently and fairly to all applicants.

Table 1: Trade Wastewater Deed Categories and Conditions

Deed Category	Overall Risk	Example Business Activities	Standard Deed Conditions
Minor – 1	Low	Smaller retail food producers, small restaurants, mechanical workshops, butchers, bakers, dentists, etc.	Domestic and process wastewater, pre-treatment prior to discharge or/and restrictions on discharge likely to be required.
Moderate – 2	Moderate	Restaurants, larger retail food producers, car wash, vehicle spray painters, service station, car detailers, large pubs and clubs, smaller shopping centres, etc.	Domestic and process wastewater, pre-treatment prior to discharge or/and restrictions on discharge highly likely to be required.
Major - 3	High	Food manufacture, food processing, metal processing (galvanising, electroplating etc), refinery, chemical production, municipal swimming pools, industry, hospitals, laboratories, large shopping centres, etc.	Domestic and process wastewater, contaminant loads may be significant and/or include “restricted substances”, multiple businesses may operate from single premises; pre-treatment prior to discharge or/and restrictions on discharge definitely required.

3.3. General Terms and Conditions Common to All Deeds

Each Deed is subject to a number of site-specific conditions nominated in the Deed and the broader requirements set down in this Standard. The conditions prescribed may include, but not be limited to:

- the type of equipment to be installed for pre-treatment and monitoring of the wastewater
- the conditions associated with the operation of such equipment
- the permitted rate of discharge to sewer
- the discharge factor to be applied to metered water consumption and/or trade wastewater discharge
- the type of wastewater to be accepted
- the permitted times of discharge and the days of operation
- conditions related to the payment of fees
- the authority to enter land or buildings
- the authority to impose standards in relation to the quality of wastewater to be discharged

3.4. Transfer of a Deed

The Deed holder cannot transfer a Deed to any other person or company.

A Deed is not transferrable between premises.

In both these instances a new application must be made to obtain a new Deed from Hunter Water, or steps may be taken by Hunter Water to prevent discharge that may include prosecution.

In considering the issue of a new Deed, Hunter Water will take into account conditions at the time of the new application. It cannot be assumed that the conditions of the new Deed will be identical to those previously specified.





3.5. Refusal to Issue a Deed

Hunter Water may refuse to issue a new Deed or a renewal of an existing Deed for any of the following reasons:

- a. The applicant has not provided adequate information to enable Hunter Water to establish a Deed; or
- b. The applicant is unable to demonstrate to Hunter Water that they are able to meet the conditions contained in this Standard; or
- c. Hunter Water has determined that the proposed discharge poses an unacceptable risk to Hunter Water's employees, assets or its ability to meet its Environment Protection Authority (EPA) discharge licences.

3.6. Cancellation of a Deed

Hunter Water may cancel or suspend a Deed if the holder has contravened any conditions of the Deed, Trade Wastewater Policy, Trade Wastewater Standard or Hunter Water's Customer Contract. On cancellation or suspension of a Deed, discharge of trade wastewater must cease immediately, and Hunter Water will take all reasonable steps to ensure that this occurs.

3.7. Deed Re-establishment

After a Deed has been cancelled or suspended, Hunter Water may decide to issue a new Deed with altered Schedules. This will allow the Applicant to continue discharging to Hunter Water's sewer subject to new conditions. Fees and charges may apply as approved by the Independent Pricing and Regulatory Tribunal (IPART).

3.8. Change of Ownership

For customers with a Trade Wastewater Deed, it will be necessary for the owner to notify Hunter Water when the property is sold. This will then enable Hunter Water to cancel the Deed. The new owner is to make a new application to discharge trade wastewater to sewer.

3.9. Term of Deed

The default term of a Trade Waste Deed is five years, for new and ongoing Deeds. This term may be decreased at Hunter Water's discretion, based on results of inspections or special circumstances that result in greater risk to Hunter Water's assets. The minimum term of a Deed is 12 months, typically issued for short-term dewatering works at construction sites.

3.10. Monitoring

It is the Deed holder's responsibility to ensure that both the quality and quantity of the wastewater discharge to sewer are in accordance with Hunter Water's requirements. In some instances, Hunter Water will require the Deed Holder to implement their own monitoring program, which will be itemised on the Deed.

To ensure compliance with Hunter Water's acceptance standards and the conditions of the Deed, authorised officers of Hunter Water will enter premises to carry out trade wastewater inspections and collect wastewater samples for analysis. Inspections are not scheduled and officers must be allowed right of entry to the site.

Inspection and sample frequencies will vary depending on the risk posed by the discharge to Hunter Water's wastewater network, treatment processes and the environment.

All sample point locations are to meet Hunter Water's requirements which include accessibility and a safe working environment in which to carry out the sampling duty. It is the responsibility of the Deed holder to provide a safe sample point location and to maintain it in such a manner.

Samples are to be collected and analysed in accordance with Standard Methods for the Examination of Water and Wastewater (Current, 22nd Edition of APHA – AWWA – WEF). A duplicate sample may be provided to the Deed holder for independent analysis (where agreed prior to sampling taking place).



All analysis of samples shall be carried out by a NATA approved laboratory, or a laboratory approved by Hunter Water. Routine sampling and analysis costs are covered by standard Trade Waste fees which are itemised on invoices. Hunter Water is authorised to pass on costs for unscheduled sampling to investigate incidents or suspected non-compliance.

Hunter Water may require a metering device to be installed to monitor the wastewater discharge volume from a premise. All costs associated with purchasing, installing and operating flow meters will be the responsibility of the owner of the property. The metering device is to be located in a safe, accessible location and be maintained in such a manner. This may include annual metering device certification by an approved contractor to ensure consistent wastewater discharge measurement and subsequent billing.

3.11. Trade Wastewater Discharges within Multi-unit Complexes

A Trade Wastewater Deed will be made with the individual owners of a Strata unit and not the Strata Plan owners / Body Corporate. This means that all Trade Wastewater dischargers within a strata complex that have a Hunter Water account will have an independent Trade Waste Deed.

Hunter Water may choose to issue a Major or Moderate Deed on the Strata Account if the number of units within the complex is likely to pose an increased risk.

4. Wastewater Tankering (Liquid Waste Carriers)

Tankered liquid waste carriers play an important role in the community by removing liquid wastes from residential, commercial and industrial premises.

The acceptance of tankered waste requires careful management to ensure that the wastewater is safely received and treated to a standard which meets our environmental discharge licence at the receiving treatment plant.

4.1. Tanking Deeds

All wastewater that is transported by tanker to a WWTW is classified as trade wastewater regardless of the source of the wastewater. The tanker company requires a Trade Wastewater (Tankering) Deed with Hunter Water, not the owner of the premises from which the wastewater was generated. Tankering Deeds apply to all tanker companies regardless of the wastewater volumes and type they discharge. The application form can be downloaded from the Hunter Water website.

Tankered wastewater must meet the acceptance criteria detailed in this standard. Prohibited substances must not be discharged via tanker to any WWTW. High-strength wastes are not acceptable without prior written approval from Hunter Water.

Table 2: Tankering Deed Conditions

Deed Type	Overall Risk	Example Activities / Premises	Standard Deed Conditions
Tanker	High	Residential properties not connected to sewer, portable toilet at construction sites, entertainment events, sporting events etc.	Duty of care lies with the tankering company to ensure solids (sludge, rocks, sand plastic, etc) and high strength wastewater are not discharged to any Hunter Water WWTW.

4.2. Term of a Tankering Deed

A one-year Tankering Deed term will be adopted for new tanker company customers. An internal review process will be undertaken for each Tankering application to ensure that the requirements of Hunter Water, including this Standard, are applied consistently and fairly to all applicants. After one year, tankering Deeds are typically converted to five-year terms.



4.3. Tanker Delivery Process

- Tanker discharges are permitted at the WWTWs that accept tankered waste between the hours of 7am and 3pm (Monday to Friday). Requests to discharge outside these hours must be made by calling 1300 657 657.
- All tanker companies must have a current Tankering Deed with Hunter Water before any tankered waste can be transported to a WWTW.
- All tanker companies must ensure their drivers have a general induction and also a site-specific induction for each site and abide by all conditions of the Service Provider (the Company managing Hunter Water's WWTWs), including minimum requirements for PPE.
- Direct tanker discharge directly to Hunter Water's sewerage system (access chambers, pump stations etc.) is not allowed. Tankered wastewater must be discharged at an approved WWTW.
- Not all WWTW's accept tankered wastewater. Table 3 (below) shows the WWTW's that accept tankered wastewater as well as the type(s) of wastewater accepted.
- Once a tankering deed is in place, tankering companies will be given access to our electronic e-docket system ("Tanker App"), which must be used to submit all tanker disposal records.

4.4. Right to Refuse Tankers

The WWTW Operator reserves the right to refuse entry to tankers if they fail to meet any of the following conditions:

1. **Safety Breach:** including but not limited to inadequate PPE, no site induction undertaken, tipping truck, unsafe behaviour such as climbing onto back of truck.
2. **Prohibited wastes or high strength wastes:** including but not limited to sludges, excessive odours, solids/non putrescibles (e.g. rags), exceedance of concentration limits.
3. **No agreement / truck not registered under agreement.**

Table 3: Standard Waste Types Accepted for Tankering

WWTW	Septic Tank Effluent	Pre-Treated Oily / Greasy Effluent	Portable Toilet Waste
Raymond Terrace	Accepted	Accepted	Prohibited
Morpeth			
Kurri Kurri			
Burwood Beach	Prohibited	Prohibited	Accepted
Dora Creek	Accepted		Prohibited
Edgeworth	Prohibited		

For all other types of waste see Section 7 Special Discharge Requirements.



4.5. Wastewater Generated Inside Hunter Water Area of Operations

The following conditions apply to Wastewater generated inside Hunter Water Area of Operations.

All tanker companies must comply with the conditions set out in the Trade Wastewater Policy, their Tankering Deed, this Trade Wastewater Standard, as well as the requirements of the WWTW Service Provider.

- All tanker companies are to inform their drivers of these requirements so that full compliance is achieved at all times.
- All tanker operators/drivers are to have undertaken a general induction by the Service Provider, as well as a site-specific induction at each WWTW before any deliveries are made. Please contact Hunter Water to arrange completion of all inductions tanker.enquiries@hunterwater.com.au.
- Drivers are to comply with this standard, obey site signage, speed limits and advisory signs and any specific directions given by the WWTW Operators while on-site.
- Deliveries will be accepted only between 7am and 3pm, Monday to Friday except public holidays. After-hours can be arranged and must be approved by Hunter Water in writing prior to the required date. Additional fees apply for after-hours tanker discharge.
- Tankered waste may be checked and sampled by a WWTW Operator onsite to determine whether the load is of an acceptable quality.
- All Tanker Drivers must complete information in the "Tanker App" for each load discharged and a delivery receipt will be created information required includes:
 - Company Name
 - Truck Registration
 - Volume
 - Discharge Type
 - Source of load
- The driver is to provide all required information for the load to be accepted.
- The WWTW Operator may inspect the information supplied in the "Tanker App" to confirm the accuracy of the information supplied.
- WWTW Operators and/or automated sampling machines may collect samples for analysis at the tanker company's expense.
- Tanker loads will be charged in accordance with Hunter Water's IPART approved fees.

4.6. Wastewater Generated Outside Hunter Water Area of Operations

Tankered wastewater originating outside Hunter Water's area of operations is not accepted as part of a "standard" Tanker Deed. Hunter Water is under no obligation to accept disposal of wastewater that has originated from outside the area of operations. Where a tanker company wishes to dispose of wastewater sourced from outside of Hunter Water's area of operations, the following requirements apply:

1. A Trade Wastewater Deed Variation form must be submitted to Hunter Water at least 10 working days prior to the proposed discharge to enable the request to be considered.
 2. The proposed wastewater is to be sampled and analysed by a NATA accredited laboratory.
Samples are to be representative of the wastewater proposed to be delivered and results must be current – within 6 months of application.
 3. The results are to be submitted along with the Trade Wastewater Deed Variation form to tanker.enquiries@hunterwater.com.au.
- For **septic tank effluent**, analysis characteristics must include: pH, BOD, TSS, TOG, Phosphorous, Ammonia & TDS.



- For **all other types of wastewater**, analysis characteristics must include the list provided in Table 10 Section 6.

Discharge of wastewater sourced from outside Hunter Water's area of operations may only occur after the applicant has received formal written approval from Hunter Water and a Tanker Deed is in place. Failure to comply with this requirement will result in the termination of the Tanker Deed.

If accepted, charging will be based in accordance with Hunter Water's IPART approved charges.

The following information must also be supplied:

- Company and site from where the wastewater originated.
- Type of wastewater.
- Volume of wastewater.
- Sample results of wastewater.
- Expected discharge frequency of the wastewater.

Solids (e.g. gravel, sand, rags, plastic) must not be delivered with loads.

4.7. Industrial / Commercial Tankered Wastewater

Tankered wastewater originating outside Hunter Water's area of operations is not accepted as part of a "standard" Tanker Deed. Where a tanker company wishes to dispose of wastewater sourced from outside of Hunter Water's area of operations, the following requirements apply:

1. A Trade Wastewater Deed Variation form must be submitted to Hunter Water at least 10 working days prior to the proposed discharge to enable the request to be considered.
2. The proposed wastewater is to be sampled and analysed by a NATA accredited laboratory.
Samples are to be representative of the wastewater proposed to be delivered and results are to be submitted to Hunter Water at least 10 working days prior to the proposed disposal date.
3. The results are to be submitted along with the Trade Wastewater Deed Variation form to tanker.enquiries@hunterwater.com.au.
 - For **all types of wastewater**, analysis characteristics must include: pH, BOD, TSS, TOG, Phosphorous, Ammonia, TDS, PFAS, Pesticide Suite and Heavy Metal Suite.

If accepted, charging will be based in accordance with Hunter Water's IPART approved charges.

The following information must also be supplied:

- Company and site from where the wastewater originated.
- Type of wastewater
- Volume of wastewater.
- Sample results of wastewater.
- Expected discharge frequency of wastewater.

Solids (e.g. gravel, sand, rags, plastics) must not be delivered with loads.

4.8. Wastewater Tanker Non-Compliance

Hunter Water may cancel or suspend a Tankering Deed if the holder has contravened any conditions of the Deed, Trade Wastewater Policy, Trade Wastewater Standard or Hunter Water's Customer Contract. On cancellation or suspension of a Deed, discharge of trade wastewater via tanker is prohibited.



5. Trade Waste Non-Compliance

5.1. Obligation to Report Incidents to Hunter Water

As specified in the Terms and Conditions of the Deed, all Tradewaste customers have an obligation to report to Hunter Water all incidents that are likely to cause, or have caused, trade waste discharges to breach Deed conditions, as soon as possible. This includes but is not limited to severe weather and power outages.

During business hours: Plumbing Team on (02) 4979 9712

Outside business hours: Hunter Water emergency line: 1300 657 000

If Hunter Water becomes aware of breaches to a Deed, through complaints, test results, inspections or any other means, Hunter Water may issue a formal 'show cause' notice whereby the customer must investigate and report on cause/s of the breach.

Where it can be demonstrated that a customer has breached the conditions of the Deed, the owner or occupier, as appropriate, will also be required to pay all costs incurred by Hunter Water associated with a breach of Deed or this Standard, and any rectification work undertaken.

5.2. Re-categorisation of Deed

Where the requirements nominated in this Standard are breached by Minor and Moderate Deed holders, Hunter Water will undertake a new risk assessment to determine whether the discharge poses an elevated risk. Where risk is deemed to be elevated, Hunter Water will re-categorise the Trade Wastewater Deed type to the next level up. i.e. Minor re-categorised to Moderate; and Moderate re-categorised to Major.

Major customers who breach conditions will be reviewed and actioned on a case by case basis, using relevant information.

The customer has an opportunity to take steps to improve the quality of discharges and make an application for Hunter Water to review the categorisation, once this has been verified through sample results collected by Hunter Water.

Example 1:

Minor trade waste customer without a required pre-treatment facility; such as a dine-in café cooking meals without a grease arrestor would be elevated to Moderate Category. Subsequently, inspection frequency would increase from once every five years to once per year and include sampling; and sample results would be used to calculate and apply BOD and TSS strength charges to subsequent invoices. All applicable fees will be charged as per the new Category.

Example 2:

Moderate trade waste customer cooking and serving meals (such as a Club, Hotel, Childcare or Aged Care centre) that consistently returns high results for BOD, TSS and Oil & Grease, would be elevated to Major Category. Subsequently, inspection frequency would increase from once per year to three times per year. All applicable fees will be charged as per the new Category.

5.3. Effluent Improvement Programs

Minor (Category 1), Moderate (Category 2) and Major (Category 3) trade wastewater discharges will need to improve the quality of their trade wastewater if the average concentration of pollutants in their discharge does not meet acceptance standards nominated in the Deed. In these circumstances the owner or tenant, as appropriate, may be directed by Hunter Water to prepare and comply with an Effluent Improvement Program meeting the performance criteria set by Hunter Water).

As part of an Effluent Improvement Program, the customer is required to:

- Identify methods to improve the quality and/or quantity of trade wastewater discharge.
- Set time frames and expected improvements.
- Report on progress of program.



- Prepare a management plan.
- Improve the quality and/or quantity of trade wastewater discharged.

Giving due consideration to both the customers' business circumstances and Hunter Water's needs and obligations, where a customer ignores, or unnecessarily delays implementation of an Effluent Improvement Program, Hunter Water may take direct action to cease the discharge of trade wastewater to sewer.

The customer may then reapply to discharge trade wastewater to sewer only when suitable pre-treatment is in place to meet the requirements of this Standard.

6. Substance Definitions and Acceptance Limits

There is a range of substances that may be contained in a trade wastewater discharge that carry with them varying levels of risk. The three categories used by Hunter Water are:

- **General Substances**
- **Restricted Substances**
- **Prohibited Substances**

At the lower end of the risk range are those substances that are generally considered to be commonly occurring or display characteristics that categorises them as having a low risk. At the high end of the risk range are those substances that are prohibited from discharge to any of Hunter Water's assets or facilities. Specific acceptance limits are applied to various substances, as detailed in the below Tables.

6.1. General Substances

General substances and their associated chemical and physical acceptance limits shall apply to all trade wastewater discharges unless specifically qualified in the written Deed issued by Hunter Water. These acceptance limits may be varied for Major (Category 3) Deeds.

Table 4: General Chemical Characteristics

Substance	Limit (mg/L)	Comments
BOD₅ Biochemical Oxygen Demand at 5 days	500	Will be determined by the capacity of the receiving wastewater treatment plan. When required a specific BODs load limit is kg/day and/or a higher limit for BODs concentration in mg/L will be applied as a special Deed condition. High BODs also increases the potential for the generation of sulphides in the wastewater.
TSS Total Suspended Solids	500	Also known as NFR (non-filterable residue). High TSS can cause sewer blockages and overload wastewater treatment works. When required, a specific TSS load limit in kg/day and/or concentration limit in mg/L will be applied as a special Deed condition.
COD₅ Chemical Oxygen Demand at 5 days	1500	As for BODs.
TOC Total Organic Carbon	1200	As for BODs.
TDS Total Dissolved Solids	4000	High TDS reduces effluent reuse options and may contribute to soil salinity.
TOG Total Oil and Grease	150	Oil and grease can cause significant blockages to pre-treatment devices (such as grease arrestors) and in sewers and pump stations, causing sewer overflows. Oil and grease also adversely



Substance	Limit (mg/L)	Comments
		affect wastewater treatment works and have detrimental impacts on receiving environments.
Ammonia (NH ₃ / NH ₄) measured as N	50	High nitrogen levels (in its various forms) can adversely affect the safety of operations and maintenance personnel, and significantly contribute to the nutrient load discharged to the receiving environment.
TKN Total Kjeldahl Nitrogen	150	TKN is the total of ammonia plus all organic, nitrogen compounds. Organic nitrogen is converted to ammonia by microorganisms. Risks are as of Ammonia.
TP Total Phosphorus	20	High Phosphorus may significantly contribute to the nutrient load discharged to the receiving environment.
Sulphate (measured as SO ₄)	2000	The Sulphur group of substances can increase the potential for the generation of sulphides and dangerous and odorous gases in sewer networks and wastewater treatment works.
Sulphite (measured as SO ₂)	15	

Table 5: General Chemical Characteristics

Analyte	Limit (mg/L)	Comments
Temperature	<38°C	High temperatures can: <ul style="list-style-type: none"> • Increase damage to sewer structures • Increase the potential for anaerobic conditions to form in the wastewater • Promote the release of gases such as hydrogen sulphide • (H₂S) and ammonia (NH₃) affect the safety of operations and maintenance personnel.
pH	6.5 – 10.0	Extremes of pH can: <ul style="list-style-type: none"> • Adversely affect biological treatment processes • Adversely affect the safety of operations and maintenance personnel • Cause corrosion of sewer structures increase the potential for the release of toxic gases such as H ₂ S and HCN.
	4.5 – 10.0	Due to naturally lower pH occurring in grease arrestors (traps), a broader pH range has been adopted for discharge from these types of facilities. This lower pH level is only applicable for samples taken directly from the grease arrestor outlet.
Colour	100 Dilutions	Colour may cause unfavourable discolouration of receiving waters. If colour is not noticeable in the discharge, then generally this will be acceptable to Hunter Water. Higher dilution levels, or other requirements, may need to be imposed where the particular colour is not biodegradable.



6.2. Restricted Substances

Other substances to be controlled in discharges to sewer are those which:

- Are persistent and/or toxic.
- Pass through a treatment plant untreated or partially treated and affect the receiving environment.
- Are deterious to the sewerage system, employees of the sewerage authority and/or the public.
- Inhibit process efficiency or make collection and treatment of wastewater more expensive.
- Could lead to contamination of wastewater treatment site.

Typically metals and organic wastes fall within the category of “restricted” substances. Depending on the concentration and volume proposed to be discharged to sewer over time, Hunter Water may determine a Maximum Daily Load Limit (kg/day) to apply to the discharge.

Table 6: Metals

Substance	Limit (mg/L)	Comments
Aluminium	Al 100.0	<p>Metals included in this table have either the potential to precipitate out of solution, causing scaling and blockages, can cause discolouration and/or are toxic to living organisms at low concentrations and bioaccumulate in food chains.</p> <p>*Silver Discharges, for example X-Ray, photographic, printing, dental and medical establishments must conform to the Photographic Uniform Regulations of the Environment (PURE). Photographic Industry Code of Practice, as advised from time to time, in all aspects unless it contradicts this Standard.</p>
Arsenic	As 0.5	
Cadmium	Cd 0.5	
Chromium	Cr 2.0	
Cobalt	Co 2.0	
Copper*	Cu 2.0	
Iron	Fe 30.0	
Lead	Pb .04	
Manganese	Mn 2.0	
Mercury	Hg Prohibited	
Molybdenum	M 10.0	
Nickel	Ni 1.0	
Selenium	Se 2.0	
Silver*	Ag 0.5	

**Table 7: Organic Metals**

Organic Compounds	Maximum Concentration mg/L	Comments
Formaldehyde	50	Formaldehyde in the sewer atmosphere can adversely affect the safety of operations and maintenance personnel.
Phenolic Compounds	10	Phenols may adversely affect biological treatment processes. They may not be completely removed by conventional treatment and subsequently may impact on the receiving environment.
Pentachlorophenol	5	Pentachlorophenol: <ul style="list-style-type: none"> • Can adversely affect the biological treatment process • Can adversely impact receiving environments
Total Petroleum Hydrocarbons / Total Recoverable Hydrocarbons	30	Petroleum hydrocarbons are flammable and may adversely affect the safety of operations and maintenance personnel
BTE:	0.1	These compounds are soluble, flammable and may adversely affect the safety of operations and maintenance personnel. They are also hazardous to receiving environments.
– Benzene		
– Toluene	0.5	
– Ethylbenzene	1.0	
– Xylene	1.0	
Halogenated Aliphatic Compounds	5	Because of their stability and chemical properties These compounds: <ul style="list-style-type: none"> • may adversely affect the treatment processes; • may impair the quality of the receiving environment; • may adversely affect the safety of operations and maintenance personnel.
Boron Measured as B	25	Boron is not removed by conventional treatment. High concentrations in effluent may restrict irrigation applications.
Bromine Total	5	High concentrations may adversely affect the safety of operations and maintenance personnel.
Chlorine Measured as Cl₂	5	Chlorine: <ul style="list-style-type: none"> • can adversely affect the safety of operations and maintenance personnel; • can cause corrosion of sewer structures.
Fluoride Measured as F	30	Fluoride is not removed by conventional treatment, however, pre-treatment can easily and economically reduce concentrations to below 20mg/L.
Cyanide Measured as Cn	1	Cyanide may produce toxic atmospheres in the sewer and adversely affect the safety of operations and maintenance personnel.
Sulphide Total	2	Sulphides in wastewater may: <ul style="list-style-type: none"> • cause corrosion of sewer structures; • generate odours in sewers which could cause public nuisance; • result in sewer gases which could adversely affect the safety of operations and maintenance personnel.



6.3. Prohibited Substances

A Prohibited Substance is any substance which:

- In the opinion of Hunter Water is injurious to, or liable to form compounds injurious to, any part of Hunter Water's or to employees to Hunter Water engaged in the operation or maintenance of the Works, the community, or the environment;
- Will impair or be liable to impair the operations of functions of Hunter Water;
- Falls within the meaning of the Protection of the Environment Operations Act 1997, causing pollution of any water body;

Hunter Water may declare, from time to time, to be prohibited by notice published in newspapers circulating generally in the area covered by the Operating Licence.

Prohibited substances include but are not limited to those listed in Tables 8 and 9.

For the purposes of this Standard the measurable acceptance limit shall be either zero, or the lowest detectable limit of the prohibited substance.

Table 8: Prohibited Substances (Common)

Prohibited Substance	Description
Stormwater to Sewer	Uncontrolled discharge of stormwater runoff to sewer is strictly prohibited. Where contamination occurs, precluding discharge to normal stormwater drainage systems under EPA and Local Government regulations, Hunter Water may grant approval for discharge to sewer under very controlled circumstances. Such restrictions may include onsite pre-treatment and/or storage for subsequent discharge when sewer hydraulic capacity is available.
Ground Water / Run-off / Fracking Water / Leachate	See Stormwater definition above.
Trade Wastewater to Stormwater Channels	The discharge of trade wastewater to Hunter Water's storm water system will only be permitted in exceptional circumstances and only after the Applicant has received a Licence from the EPA detailing the particular discharge requirements.
Households Waste Types	Any animal matter, wool, hair, flesh, feathers, dust, ashes, soil, rubbish, grease, garbage, dead animal, vegetable or fruit parings, wood, rags, synthetic plastics, steam or any solid matter.
Discrete Oil	Oil, where it constitutes the majority of the liquid discharged, or has formed free floating discrete particles must be removed prior to discharge.
Toxic Substances	These may be poisons, any substances that are carcinogenic, may cause mutations, and/or could materially affect the environment or cause harm to humans.
PFAS Compounds Measured as Sum of PFAS	PFAS (Per- and Poly-fluorinated Substances) is a group of chemicals, including but not limited to PFOS and PFOA, which are persistent in the environment and hazardous to human health. 'Sum of PFAS' must be below the laboratory limit of detection. Specialised treatment methods are required to remove PFAS.

**Table 9: Prohibited Substances (Rare)**

Prohibited Substance	Description	
Explosives	Any substance that could cause an explosion or fire in any of Hunter Water's Works. Generally, substances may become explosive and/or flammable where LEL (Lower Explosive Limit) > 10%. Sewer connections to fuel dispensing areas, flammable and dangerous goods stores will not be permitted. In all cases the discharge must not exceed 10% of the lower explosive limit at 25°C.	
Infectious and Medical Wastes	Any infectious or contagious substance, whether solid or liquid, which has not been disinfected is strictly prohibited from discharge. The discharge of solid wastes from any hospital, clinic, surgery, laboratory or any other medical or veterinary facility to the sewers is strictly prohibited. Wastes may include, but not limited to, hypodermic needles, syringes, instruments, utensils, swabs, dressings, bandages, paper and plastic items of a disposable nature and any portion of human or animal anatomy.	
'GM' Substances	Genetically Modified substances as a general rule must not be discharged to sewer. Hunter Water may consider accepting such substances only where the Office of the Gene Technology Regulator approves of discharge to the broader environment under the Gene Technology Act 2000 as amended. For further information contact: Office of the Gene Technology Regulator: Telephone: 1800 181 030 www.ogtr.gov.au	
Radioactive Substances	There are no circumstances in which Hunter Water can accept discharge of radioactive substances.	
Biological Additives	Any substance, whether or not a control agent, which could materially affect the operation of a grease arrestor or other device or equipment used for the treatment of waste.	
Pesticides	Organophosphates Azinphos-Methyl, Azinphos-Ethyl, Chlorypyritos, Coumaphos, Demeton, Diazinon, Dichlorvos, Dimehoate, Disulfoton, Fenitrothion, Fenthion, Malathion, Methamidophos, Mevinphos, Omethoate, Oxydemeton-Methyl, Parathion, Triazophos, Trichlorfon.	Organochlorines Aldrin, Chlordane, DDT, Dieldrin, Heptachlor, Lindane. Pesticides (General) Insecticides, Herbicides & Fungicides.
Other Organic Compounds	Halogenated Aromatic Hydrocarbons (HAHS) Polychlorinated biphenyls (PCBS) Polybrominated biphenyls (PBBS)	Polynuclear Aromatic Hydrocarbons (PAHS)

6.4. Substances to be Tested for Applications for Special Discharges

The tests listed in Table 10 below must be undertaken on all surface water and groundwater that is proposed to be discharged to sewer; and on all non-domestic wastewater proposed to be discharged via waste tanker. Depending on the type of trade waste generated, Hunter Water may require new Trade Waste applicants to test for any or all these substances for new trade waste proposals.

**Table 10: Test Results Required for Special Discharge Requests (Sewer or Tanker)**

Analytes			
Biological Oxygen Demand (BOD)	pH	Nickel	Bromine
Total Suspended Solids (TSS)	Aluminium	Selenium	Boron
Chemical Oxygen Demand (COD)	Arsenic	Silver	Total Chlorine
Total Organic Carbon (TOC)	Cadmium	Tin	Chloride
Total Dissolved Solids (TDS)	Chromium	Zinc	Naphthalene
Total Oil and Grease (TOG)	Cobalt	Fluoride	Colour
Ammonia	Copper	Formaldehyde	Chlorinated Aromatic Compounds
Total Kjeldahi Nitrogen (TKN)	Iron	Phenolic Compounds (phenol, di-, tri-, tetra-, penta-chlorophenol)	Polynuclear / Polycyclic Aromatic Hydrocarbons (PAH)
Total Phosphorus (TP) or/and Total Reactive Phosphorus (TRP)	Lead	Total Petroleum Hydrocarbons (TPH) / Total Recoverable Hydrocarbons (TPH)	Organophosphate and Organochlorine Pesticides (OP/OC)
Sulphate	Manganese	Benzene, Toluene, Ethylene, Xylene (BTEX)	Polychlorinated Biphenyls (PCBs)
Sulphide (total dissolved)	Mercury	Halogenated Aliphatic Compounds	Per- and Poly- Fluorinated Substances (PFAS) Suite of 28 compounds including Total Sum of PFAS
Temperature	Molybdenum	Cyanide	

6.5. Adverse Effects of Non-Compliant Trade Wastewater

High Strength Wastes (Oil and Greases)

Wastewater with high concentrations of oil and grease can have the following impacts:

- Cause blockages in poorly maintained pre-treatment (e.g. grease arrestor) facilities.
- Upon cooling, accumulate on the walls of sewer pipes and pump stations causing blockages ('fatbergs') and other maintenance problems.
- Deposit in wastewater treatment works on channels, screens and tanks.
- Cause overflow conditions in premises where facilities are not cleaned on a regular basis.
- Contribute to pollution and odour problems if these residual wastes are not disposed of properly at an approved facility.

The use of surfactants (dishwashing detergents) to dissolve oil and grease simply shifts the pollutant load away from the premises and into the sewer, as oil and grease precipitates (becomes solid again) as the wastewater cools down again. This contributes to blockages.

High Strength Wastes (BOD and TSS)

Wastes with a high biochemical oxygen demand (BOD) and suspended solids (TSS) can overload sewers and WWTWs and cause severe disruptions and extra costs. to secondary treatment works (especially activated sludge plants) with additional load resulting in extra costs. Excessive detention periods in treatment



facilities or in the sewerage system can cause odorous hydrogen sulphide gas emission which is a hazard to workers and degrades and corrodes sewer assets.

Acidic Wastes

Wastes with a pH below 6.5 can be hazardous to Hunter Water's personnel and cause corrosion and structural damage within the sewerage system. Large volumes of acidic waste can adversely affect treatment works.

Alkaline Wastes

Wastes with a pH above 10 can be hazardous to Hunter Water's personnel and cause corrosion and structural damage within the sewerage system. Large volumes of alkaline waste can adversely affect treatment works.

Heavy Metals, Toxic and/or Persistent Chemicals

Metals and most chemicals are not removed by conventional wastewater treatment processes. Metals and some chemicals are retained in solids and are ultimately applied to land, which causes contamination. Some chemicals are retained in liquids, which is then discharged to the environment, also causing contamination.

7. Special Discharge Requirements

7.1. Surface Waters or Groundwater

7.1.1. Discharge to Sewer

Typically, discharge of surface waters or groundwater is NOT permitted as excess flows in the sewer network can cause severe operational difficulties for Hunter Water and potentially increase the number of sewer overflows. However, Hunter Water recognises there are some circumstances where it is environmentally beneficial to accept surface or groundwater to sewer under strict controls.

Requests to discharge must be made in writing to plumbing@hunterwater.com.au, including NATA-accredited lab test results for the analytes listed in Table 10. It must be noted that should Hunter Water grant approval for surface or ground water discharge to sewer, strict controls will be enforced, e.g. discharge only allowed in dry weather (cease discharge during and immediately after a rain event).

7.1.2. Discharge to Sewer

The above conditions also apply to tankering applications. Tankering is permitted only where connection to sewer is not possible. Requests to discharge via tanker must be made by emailing tanker.enquiries@hunterwater.com.au, and must include NATA-accredited lab test results for the analytes listed in Table 10.. Lab analysis results of the following chemicals must be provided to Hunter Water before the application will be considered.

7.1.3. Discharge to Sewer

A short-term discharge is defined as an arrangement which will continue for less than two months, i.e. is temporary in nature. Hunter Water may elect to adopt a higher allowable acceptance limit only where Hunter Water is satisfied that the proposed contaminant load discharged to sewer does not affect compliance with its WWTW licence conditions.

For short-term dischargers, the allowable concentration, if varied from Hunter Water's requirements for prohibited substances, shall not exceed the Guideline Values nominated in the National Water Quality Management Strategy "Guidelines for Sewerage Systems – Acceptance of Trade Waste (Industrial Waste)" 1994.



7.1.4. Discharge to Sewer

Hunter Water recognise stormwater and surface water as prohibited discharge to sewer. As such, open areas are required to be roofed to prevent stormwater and surface water ingress to sewer. Under extenuating circumstances Hunter Water may review an open area discharge to sewer application. In order to prevent overloading the sewerage system with excess flows from discharging rainwater collected on open areas, any customers wishing to discharge surface run off to sewer must firstly obtain written permission from the relevant local council or the EPA and submit to Hunter Water for consideration.

Hunter Water will also need to approve any such discharge and depending on the size of the open area, will provide the appropriate list of conditions that must be followed regarding the design and operation of the facility (initial and on-going).

7.2. Discharge to Stormwater Systems

The majority of minor (street-level) stormwater reticulation systems are owned and managed by the local Council. Hunter Water owns and manages 96km of major channels, culverts and large-diameter pipes. The NSW Protection of the Environment Operations Act (POEO) 1997 prohibits the discharge of anything other than stormwater to stormwater networks. Applications to discharge anything other than stormwater must be made to the relevant authority (Council or Hunter Water).

Applications to Hunter Water will be considered on a case by case basis. Discharge water quality must meet appropriate water quality guidelines and not have a measurable impact on the physical, chemical or biological characteristics of the receiving waters as defined by the POEO Act 1997. It is advisable to engage a qualified environmental consultant to comprehensively test the water quality prior to and during any discharge to stormwater and treat the water as required. Ongoing discharge water analysis results are required to be forwarded to Hunter Water.

Where groundwater is being extracted for discharge to the stormwater system, the NSW Office of Water may require a licence for the groundwater extraction. A copy of the licence must be forwarded to Hunter Water. In the event a licence is not required, formal notification from NSW Office of Water and EPA must be forwarded to Hunter Water clearly stating this. Hunter Water will independently assess the application and may elect to impose additional discharge conditions, or, prohibit the discharge altogether.

7.3. Mobile Food Vans

Food preparation and cooking in a mobile food van or a mobile food outlet facility generates liquid waste. Fatty, oily or greasy types of liquid waste from food vans includes all cooking water, any food residues, and washing up water from your food preparation, serving or cleaning up. This liquid waste is required to be discharged to sewer. If your business generates any of this type of liquid waste from your food van or from food preparation at other premises, you are required to submit an Application for Approval to discharge the liquid trade waste to Hunter Water's sewer network. Please contact Hunter Water's Technical Services section to discuss your requirements prior to commencement of your proposed operations - plumbing@hunterwater.com.au.

7.4. Sink-to-Sewer Waste Disposal Units

The use of sink-to-sewer disposal units (also called in-sink food waste disposers or garbage grinders) will be permitted for single/standalone residential customers, subject to the following conditions being met:

1. The installation of garbage disposal units is to be carried out by a licensed plumber.

For commercial customers and residential medium density/multi-unit developments, Condition 1 must be met as well as the following:

2. Hunter Water must be notified in writing of the intention to install a sink to sewer disposal unit prior to installation.
3. Approval for the installation must be granted by Hunter Water to be connected to Hunter Water's sewerage system.



4. Appropriate pre-treatment facilities will be required to be installed after the sink to sewer disposal unit.
5. For new developments involving commercial premises, the trade wastewater pre-treatment facility will need to be sized to remove the additional load generated by the sink to sewer disposal unit.

7.5. Use of Additives in Pre-Treatment Systems

The addition of solvents, enzymes, mutant or natural bacteria, odour control agents and pesticides to grease traps or biological pre-treatment systems is not permitted except by specific written application and subsequent authorisation by Hunter Water.

8. Fees and Charges

The Trade Wastewater fees and charges described in Section 7 are in addition to the fees and charges assessed under Section 50 of the Hunter Water Act as specified in a 'Notice of Formal Requirements' letter specific to new development applications.

If trade wastewater is discharged from a premise to Hunter Water's works, and that premise is operating without a Trade Wastewater Deed, then the Owner/Operator will be charged for the inspection and any necessary sampling deemed to be required by Hunter Water and back charges with interest applied for the period of overdue payment.

8.1. General

The fees and charges Hunter Water collects are regulated by the NSW Independent Pricing and Regulatory Tribunal (IPART) and remain in force for a specific term. Trade Wastewater fees and charges are subject to CPI adjustment on 1 July each year and are reviewed more extensively as part of each IPART price path. The current charges are detailed in the 'Trade Wastewater Schedule of Fees and Charges' available for download from the Hunter Water website.

Fees and charges for the discharge of trade wastewater to Hunter Water's sewers will be levied on the property owner as part of the normal water/sewage notice of charges issued three times per year.

In determining the fees and charges Hunter Water aims to recover the costs directly attributable to the acceptance and processing of trade waste. Accepting wastewater that is of higher strength than domestic wastewater incurs additional costs, inspections and sampling monitoring to ensure satisfactory performance over time.

The following charges will apply to a trade wastewater discharge to sewer commensurate with the type of Deed entered into with Hunter Water:

- Establishment Fees
- Annual Deed Fees
- Deed Renewal Fees
- Analytical Fees
- Inspection Fees
- Strength Fees for Biological Oxygen Demand (BOD5) and Total Suspended Solids (TSS)
- Discharged Volume Fees (rates per kL0
- Tankering Fees
- Variation Fees



8.2. Breach of a Deed and Rectification Work

Where it can be demonstrated that a customer has breached the conditions of the Deed, the Applicant, owner, or occupier as appropriate, will also be required to pay all costs incurred by Hunter Water associated with a breach of Deed or this Standard, and any rectification work undertaken.

8.3. Fee Structure for Each Category

Table 11: Trade Waste Fees

Fee Applied	Category of Trade Wastewater Discharge			
	TANKER	Minor 1	Moderate 2	Major 3
1. Deed Establishment (New Deeds Only)	✓	✓	✓	✓
2. Deed Renewal	✓	✓	✓	✓
3. Annual Fee	✓	✓	✓	✓
4. Variation Fee	✓	N/A	✓	✓
5. Inspection Fee Per Visit	✓	✓	✓	✓
6. Analytical Fees	Ad-hoc	N/A	Included in annual fee	
7. Delivery Processing Fees	✓	N/A	Included in annual fee	
8. Strength Fees	⊙	N/A	N/A	✓

Notes:

1. The annual fee for Minor Deeds includes an inspection every five years. Additional inspections, if required, are charged at the rate for a Major Deed Inspection.
2. The annual fee for Moderate Deeds includes one inspection and sample every 12 months. Additional inspections, if required, are charged at the rate for a Major Deed Inspection.
3. The annual fee for Major Deeds includes three inspections and samples every 12 months.
4. ⊙ = potential strength fees where discharge exceeds allowed tankering levels.
5. N/A = Not applicable.

8.4. High Strength Fees

The discharge of trade wastewater to the sewerage system places additional pollutant loads on WWTWs. Incentive charges are levied to offset treatment costs at WWTWs and to encourage customers to improve discharge quality.

Strength fees are applied where the trade waste discharge to sewer is more concentrated than typical domestic sewage. In the current price path, strength fees are only applied to Biochemical Oxygen Demand (BOD5) and Total Suspended Solids (TSS). Previously, strength fees have been applied to Sulphide and Metals. Pollutants attracting high strength fees are reviewed periodically and any changes proposed by Hunter Water must be approved by IPART.

Fees are calculated on average concentrations of BOD and TSS (separately) from the most recent sample results, collected during inspections undertaken by either Hunter Water or Hunter Water's contractor. For

Major Deed customers, a minimum of one sample is taken per billing cycle. For Moderate Deed customers, a rolling average of the three most recent samples (over 3 years) is used.

The trade wastewater high strength billing is triggered when the average BOD or TSS sample results exceeds typical domestic sewage concentrations (240mg/L BOD5 and 290mg/L TSS). The total load of each pollutant is calculated in kilograms by multiplying the concentration (mg/L) by the volume (kL) discharged to sewer. High strength fees are shown as a separate line item on the bill.

Detailed information on strength fees are provided in the 'Trade Wastewater Schedule of Fees and Charges' available for download from the Hunter Water website.

8.5. Tanker Fees

Tanker companies are required to pay the fees and charges itemised in the Trade Wastewater Schedule of Fees and Charges, in addition to the following fees:

After Hours Access Fees

After-hours access can be arranged and must be approved by Hunter Water in writing prior to the required date. A set rate applies for the initial 4 hours. An hourly charge will be incurred after the initial 4 hours.

Delivery Processing Fees

Tanker companies are required to pay administration fees as outlined in the Trade Wastewater Schedule of Fees and Charges.

Analytical Fees

Fees may be charged for the cost of Hunter Water to undertake sampling and analysis of the wastewater being discharged, in order to verify the wastewater quality. Where applicable, the analysis results are used to charge high strength to the tanker company.

8.6. Miscellaneous Charges

Further fees for specific substances discharged may be determined by Hunter Water and will be specified in the Deed.





9. Typical Activities Generating Trade Wastewater

9.1. General Trade Wastewater Generators

Listed below are some of the general businesses and industries that generate trade waste. Note that this is not an exhaustive list.

Abattoirs	Fish Outlets
Abrasive Blasting	Hair Salons
Aerial Spraying	Hire Equipment
Agricultural Machinery	Hospitals
Air Conditioning (Cooling Tower)	Hotels
Auto Electrical	Industrial Cleaners
Auto Mechanics	Laundries – Commercial
Bakers	Medical Practitioners
Battery Manufacturers	Motels
Beauty Salons	Oil Recycling
Bitumen Spraying	Paint & Paint Manufacturers
Bus & Coach Service	Panel Beaters / Smash Repairs
Butchers / Delicatessens	Photography (Non-Digital)
Carpet & Lounge Cleaners	Printers
Catering	Restaurant
Clubs	Screen Printers
Commercial Cleaners	Service Stations
Dairies	Take Away Food
Delicatessens & Small Goods	Transmission – Automotive
Dentists	Veterinary Premises
Dry Cleaners	Waste Reduction & Disposal
Engine Reconditioning	

9.2. Food and Beverage Trade Wastewater Generators

Listed below are examples of the retail and non-retail commercial premises that process and/or serve food and beverages. Note that this is not an exhaustive list.

Bakeries / Patisseries	Fresh Fish Shop
Brewery	Garbage Container Washing
Butchers	Hostel / Boarding House
Café	Hospital Kitchen
Cafeteria (any industry)	Hot Bread / Pastry Shop
Canteen	Ice Cream Parlour
Caterer	Kebab Shop
Cake Shop	Motel – Kitchen / Restaurant
Chicken Shop (BBQ, Charcoal)	Noodle Bar
Child Care Centre Kitchen	Hotels and Clubs
Commercial Kitchen	Pie Shop
Community Hall	Pizza Shop
Delicatessen	Restaurant
Distillery	Sandwich Bar
Doughnut Shop	Service Station with Hot Food
Function Centre	Take-away Food Shop



10. Installation and Maintenance Requirements for Trade Wastewater Facilities

10.1. Installation Considerations of Trade Wastewater Pre-Treatment Equipment

No work is to commence on the installation of trade waste pre-treatment equipment until a completed Hydraulics Assessment Application has been submitted to Hunter Water's Plumbing and Trade Waste team and subsequent formal approval given. Notification should be given to the Plumbing and Trade Waste team of completion of installation. Failure to comply with the above requirements is a breach of the Hunter Water Act of 1991. The following points list some of the considerations to be made for a proposed trade wastewater installation:

- Trade waste installations shall be subject to all relevant requirements including those of Hunter Water, the Plumbing Code of Australia, and AS/NZS3500 Plumbing and Drainage.
- Hunter Water holds no responsibility for the integrity and on-going operation of any pre-treatment facility.
- The property owner and facility manufacturer are jointly responsible for compliant operation of the pre-treatment facility in accordance with Hunter Water's allowed characteristics for wastewater discharge to sewer.
- Should the integrity or operation of the pre-treatment facility be compromised, Hunter Water reserves the right to require the facility to be repaired, replaced or removed at the expense of the manufacturer/property owner.
- The plumbing and drainage work is to be carried out by a licensed plumber and/or drainer.
- A pre-treatment facility should be located in an area that readily allows access for maintenance and inspections without creating a hazard.
- Consideration should be given to potential odour issues. In particular, screenings and sludges need to be stored in areas protected from flies and vermin. The screenings and sludges must be removed from the site frequently to avoid odours.
- Any pre-treatment facility must be properly maintained to ensure correct performance.
- Mechanical equipment requires regular preventative maintenance. You may need to carry spare items of equipment, i.e. pumps etc, if these items are vital for the effective operation of the pre-treatment facility. Mechanical failure of a pre-treatment facility is no excuse for discharging unacceptable wastewater to the sewerage system.
- A pre-treatment facility must not allow the ingress of storm/surface water, or the spillages/overflow of trade wastewater, sludges or chemicals by gravity or mechanical means. This may require the surrounding area to be roofed and/or contained.
- The plumbing contractor should be given a copy of the trade waste approval so they are fully aware of any requirements pertaining to the trade wastewater installation.
- The available fall in existing drainage should be assessed to ascertain whether required depths, falls, lid heights, retention volumes and sampling points can be provided for.
- Manufacturer's instructions should be followed for installation of pre-treatment and associated equipment.
- Consideration should be given to materials selection. E.g. HDPE drainage pipe may be required in some installations, particularly where there is a high hot water load.
- Sites should be assessed for complying sewer overflow gullies to ensure the property is compliant with AS/NZS3500 Plumbing & Drainage requirements.
- A hose tap may be required to be installed adjacent a pre-treatment facility to ensure satisfactory cleanout and subsequent refilling. Such hose taps must be fitted with an approved backflow prevention device.



10.2. General Maintenance of Trade Wastewater Facilities

Any apparatus or equipment used for the pre-treatment/monitoring of trade wastewater is to be maintained to Hunter Water's satisfaction at all times. Equipment may require a regular pump out and maintenance program with the minimum pump out frequency required being stated in the Trade Wastewater Deed.

It is the responsibility of the discharger to arrange for the servicing of their pre-treatment facility. This may involve the setting up of a maintenance contract with a liquid waste pump out contractor to regularly service the pre-treatment facility or the contractor may be commissioned on a casual basis by servicing on demand. Hunter Water may require the pump out frequency to increase if a site inspection identifies that the pre-treatment facility is overloaded.

The disposal of residual waste such as grease, oils and sludge must be carried out in accordance with local Council requirements, the Department of Environment Protection Authority (EPA) requirements, and any other legal requirements. These wastes must not be disposed of to Hunter Water's wastewater network.

The pre-treatment facility must be re-filled with clean water immediately after cleanout to restore the facility to an operational condition.

10.3. Food Premises Trade Waste Pre-Treatment Options

10.3.1.

The main type of pre-treatment used to treat greasy wastewater is the grease arrestor. All non-residential premises, engaged in the cooking and preparation of foodstuffs, are to install and maintain an adequately sized grease arrestor, to prevent the discharge of oil, fats, solids and grease wastes into Hunter Water's sewerage system.

The grease arrestor is simply a vessel that allows the wastewater to be retained long enough for solid components to sink to the bottom and lighter components such as grease and oil to float to the top. There are various styles of grease arrestors available on the market. The (Draft) Australian Standard AS/NZS 5215:2022 specifies definitions, materials of construction, principles of design, making, testing, sizing and maintenance requirements for passive grease arrestors.

Some models include filters that enhance the performance of the arrestor by minimising the quantity of suspended solids that exit the arrestor, and by providing some surge control to ensure a more consistent batch process.

Grease Arrestor Sizing and Installation

A grease arrestor of at least 1000L capacity is required for the majority of food handling premises. The required size increases with increasing scale of operations on the site.

Capacity allowance of **250L per dishwasher and 15L per seat** is used to calculate grease arrestor sizes for restaurants, function centres, hotels, motels, clubs, hospitals, nursing homes, cafeterias, and any other premises serving meals. Table 11 below provides sizing based on these allowances.

Table 12: Minimum Sizing for Food Premises Grease Arrestors

No. of seats	Grease Arrestor size (L)
1-49	1000
50-79	1500
80-109	2000
110-169	3000
170-229	4000
≥230	5000

The installation of pre-treatment equipment for a greasy wastewater process will require attention to the following issues:

- Grease arrestors, where installed in ground, should be placed on compacted fill to avoid settlement after installation. Some manufacturers specify stabilised sand or concrete backfill to support their product, depending on the materials used for the construction of the arrestor.
- Care should be taken to ensure excavations do not undermine existing structures by encroaching on the "zone of influence".
- The inlet and outlet assembly risers and sampling point riser must be extended to ground level. Any drainage risers from inlet or outlet assemblies, sampling points or inspection points that are subject to vehicular traffic should terminate independently with a cast iron trafficable cover. Offsets are not permitted in inlet or outlet assembly risers or sampling point risers.
- Venting - a grease arrestor requires two 100mm vents - one chamber vent (induct) and a vent on the upstream trade waste drainage line (educt). The 100mm induct vent may be low level or if potential odours are a concern, this vent may be extended as a high level vent.

Note: A grease arrestor often creates an aerial disconnection of the drainage downstream of the grease arrestor from the upstream vent. Additional venting may be required on the downstream drainage.

- An overflow gully for a premises should be located downstream of the grease arrestor to prevent sewer surcharge into the grease arrestor. A reflux valve may be required where the overflow gully height cannot protect the grease arrestor from sewer surcharge.
- A grease arrestor is not necessarily required to drain to a disconnecter trap and in most cases this should be avoided due to the potential for odours from the trap.
- Lids should be gastight gatic type covers. The weight of the lid (light, medium or heavy duty) will be determined by what traffic the lid will be subjected to (e.g. pedestrian, cars, trucks). The grease arrestor cover should finish slightly higher than ground level to reduce the potential for stormwater ingress into the arrestor. Grease trap risers and covers shall be effectively sealed during installation to prevent ground water entering the grease arrestor.
- In above ground installations access platforms may be required around grease arrestors for maintenance and monitoring purposes. Bollards will be required to protect the pre-treatment facility from traffic. Above ground installations must ensure that there is clear unobstructed access above the grease arrestor for inspection and maintenance. The clear access required above the grease arrestor is to equal the depth of the grease arrestor as a minimum.
- Copper pipes and fittings are not permitted to be used in greasy wastewater installations.
- Special condition needs to be given to the installation of grease arrestors inside buildings. The installation must meet specific requirements regarding venting of the grease arrestor, ventilation of the building or room in which the arrestor is installed, and type of lid fitted to the arrestor. The local Council should be contacted to confirm allowance and requirements in these situations.



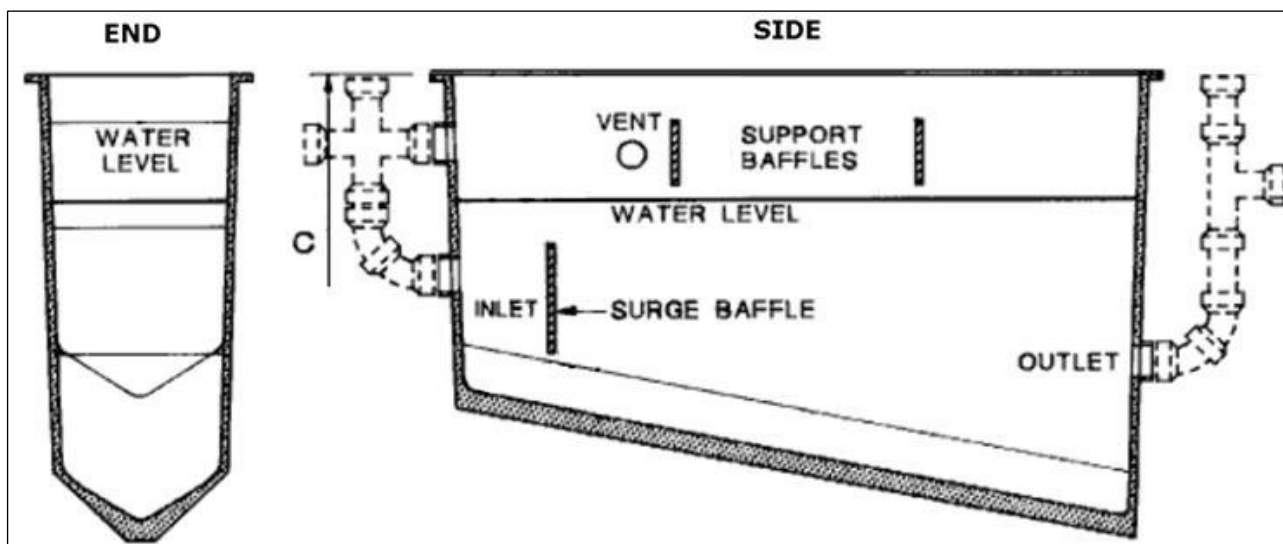


Figure 2: Typical Grease Arrestor Design

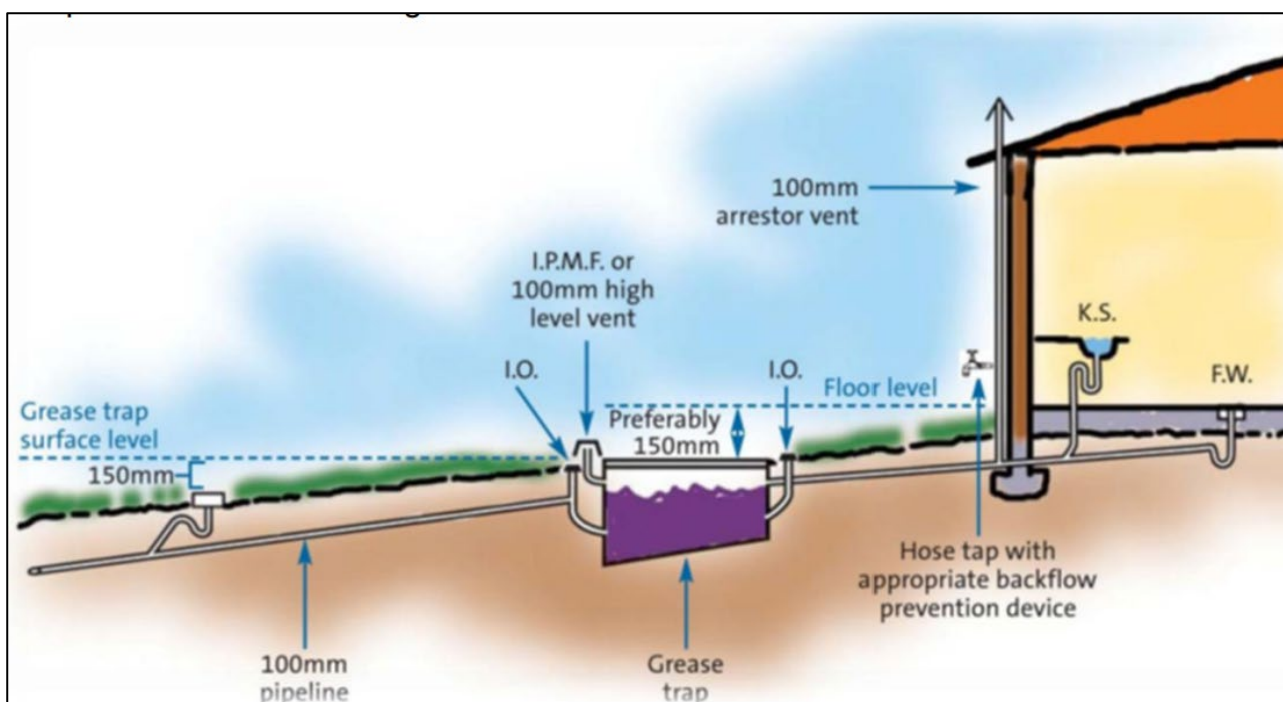


Figure 3: Typical Grease Arrestor Installation (image credit: Sydney Water)

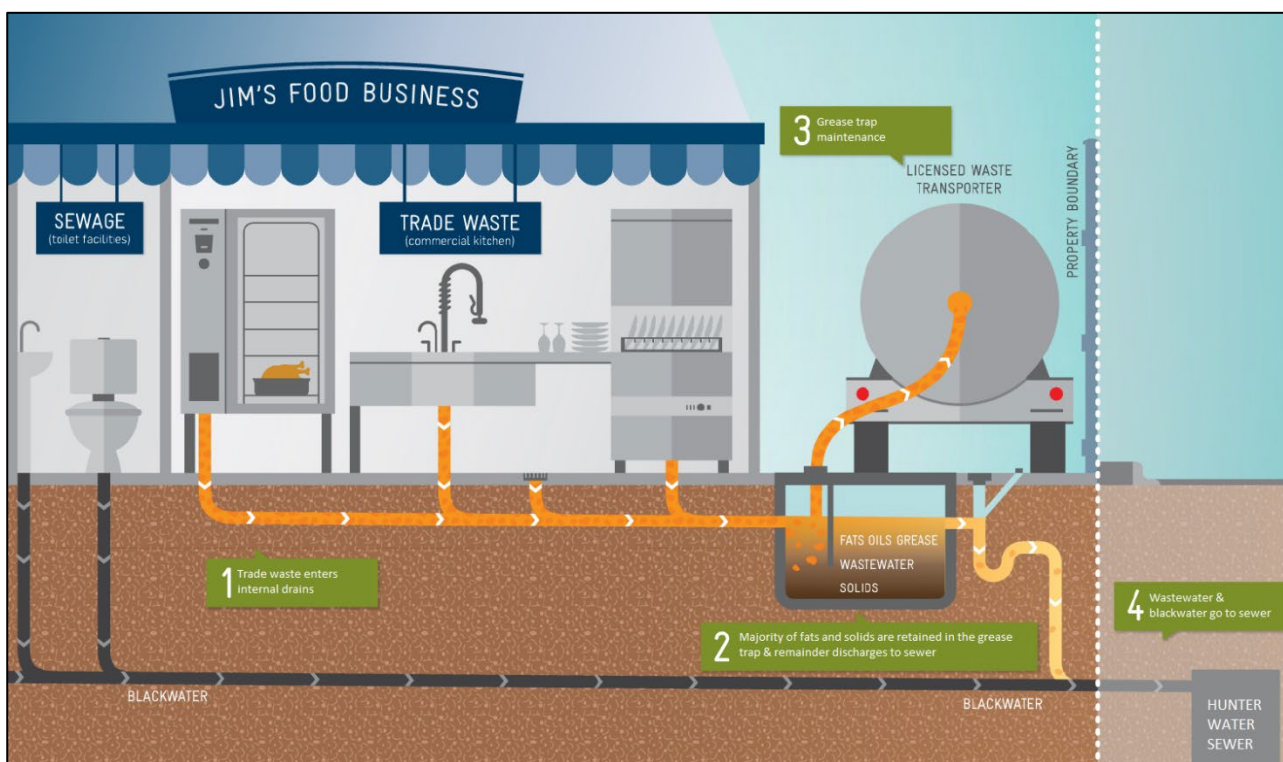


Figure 4: Typical Food Premises Trade Waste Installations (image credit: Sydney Water)

Retail Food Businesses where a grease arrestor may not be required

Depending on site-specific factors, the businesses listed below **may** not require a grease trap; however, they may require an alternative pre-treatment facility. All grease trap installations must be made in consultation with Hunter Water:

- Works canteen (no food cooked or served, employees bring own meals).
- Chocolate shop (sales only – no chocolate making)
- Coffee shop/sandwich shop (no food cooking)
- Fish shop/seafood (fresh, no cooking on-site, floor wastes with basket traps, basket arrestor)
- Fruit & vegetable market (no on-site preparation, floor wastes with basket traps, basket arrestor)
- Fruit salad bar
- Juice bar
- Mixed business (no food cooking)
- Oyster processing depuration (floor wastes with basket traps, basket arrestor)
- Nut shop
- School canteen (no food cooking, pie warmer may be used)



10.3.2. Dry Basket Arrestor

Dry basket arrestors (DBA) are required to screen out gross solids such as rags, cigarette butts, stones etc. DBA and Screens are used in numerous applications with the most common being food preparation and automotive/mechanical wash bays.

DBAs should comprise a stainless steel top grate, a stainless steel mesh lift out basket and a stainless steel fixed tertiary screen. Mesh/penetrations should not be greater than 3mm. The arrestor basket or screen should be able to be cleaned easily and should be sized so that normal loads do not block screens. Consideration should be given to size, weight, accessibility and lifting mechanisms required for baskets and grates.

When fitting DBAs to existing floor wastes, smaller DBAs can be retrofitted into the existing riser. Larger DBAs may need to be installed adjacent to the riser connecting to a junction in the riser, with the existing riser terminating with a bolted trap screw. This method allows cleaning access to the disconnecter trap, which would be prevented by a fixed screen.

DBAs need to be emptied regularly according to loading; once a day is often not enough.

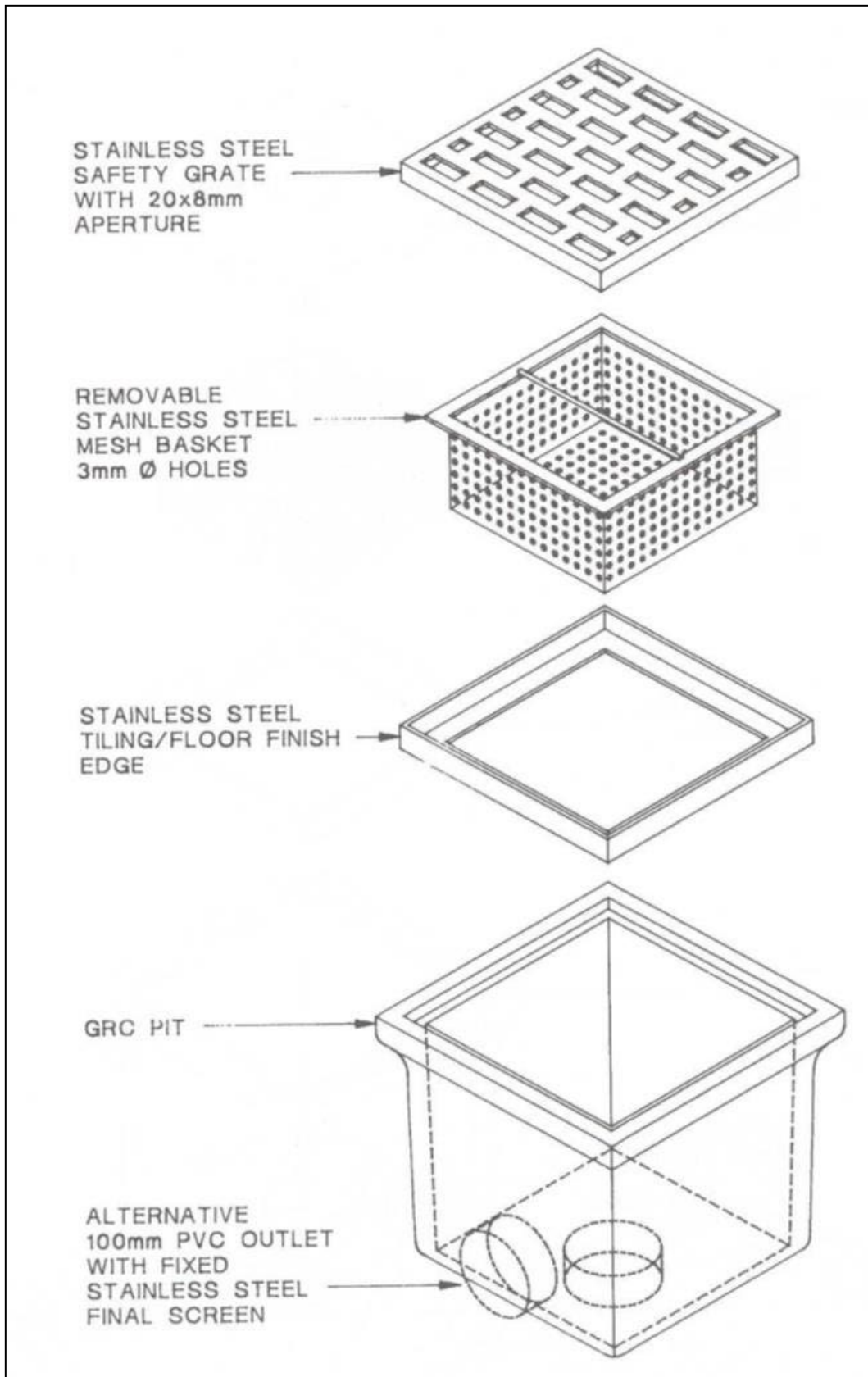


Figure 5: Typical Dry Basket Arrestor (image credit: Mascot Engineering Group)



10.4. Petroleum / Oily Wastewater Pre-Treatment Devices

Oily waste generally refers to liquid trade waste resulting from the washing down of vehicles/ machinery and parts. Pollutants produced from these activities include petroleum-based oils and greases, solids, metals and solvents.

10.4.1. Primary Collection Sump

A collection sump/well is the first point of collection of effluent from a wash bay floor area and may perform the following functions:

- Directs the effluent to the retention pit.
- Houses the dry basket arrestor or screen.
- May provide first level of silt retention.

The size of the collection sump is not specified but should be designed to handle hydraulic loads, efficiently drain the wash bay and house a basket arrestor of sufficient size to adequately contain expected solids loads and screen out gross solids.

10.4.2. Retention Pit / Retention Well

The retention pit (also known as a well) is required to provide minimum standing times for the effluent so the detergent/water/oil emulsion can break. If the emulsion has not broken prior to being treated by the oil separator, the oil separator's efficiency will be greatly reduced.

The retention pit shall have a minimum capacity of 1000 litres. The retention pit volume may need to be increased in line with flow rates to achieve a minimum retention time of 1 hour. The pump out well should not be used to achieve retention volumes.

Sizing of the retention pit should also allow for the volume of the oil separator. This allows the oil separator to be drained, at the regular service interval, back to the retention pit. A sludge return line will facilitate this operation making the scheduled pump out of the multi-pit system more efficient.

The use of multiple pits, baffles, and relative positions of inlets and outlets should be considered to achieve required retention times and to minimise effluent short circuiting. The design of the inlet and outlet to the retention pit should consider effluent path e.g. inlet and outlet tee assemblies, whether oil is to be retained in the retention pit or transferred to the pump out well and design of effluent transfer to and from retention pit to create minimal turbulence to avoid re-emulsification.

The retention pit is often subject to the build-up of gases within the pit which may lead to a hazardous situation if the gases are flammable or toxic. Venting the pit can remove this potential hazard and also contribute to effluent quality by allowing some volatile petroleum hydrocarbons to gas off. To this effect a 100mm high level vent shall be fitted to retention pits.

Any design for fabrication of retention pits on site shall demonstrate how adequate water proofing of the pit shall be achieved to prevent loss of effluent to the environment.

10.4.3. Pump Out Pit / Pump Out Well

The pump out pit or well provides containment for the effluent prior to being processed through the oil separator. The pit should be sized to match the pump's capacity with expected flow rates from the trade waste process. The working volume or the difference in volume from the 'pump on' control and the 'pump off' control is the net result of this calculation.

The pump controls shall comprise Auto on/off operation, high level alert, and a Manual On control to facilitate sampling on demand, except in the case of fueling station forecourts where special requirements for effluent draining to sewer from these areas do not permit an Auto on pump control.

Any design for fabrication of pump out pits on site shall demonstrate how adequate water proofing of the pit shall be achieved to prevent loss of effluent to the environment.



10.4.4. Dry Basket Arrestors / Screens

Screens or DBAs with a maximum mesh or orifice size of 3mm are required in any wash bay installation. The device is usually located in the primary collection sump but may also be located in-line prior to the retention pit.

The screen/arrestor should be of a practical size to suit the process it is serving and should be able to be accessed and cleaned easily. A fixed tertiary screen is desirable but not essential as the retention pit and oil separator both provide further solids removal.

Consideration should be given to accessibility to the screen/arrestor for cleaning out and maintenance, frequency of cleaning, and type of access lid fitted to the screen/arrestor.

Retention / Pump Out Pit Lids and Covers

Lids to Retention pits and Pump Out pits shall be gastight gatic type lids. The weight of lid (light, medium or heavy duty) will be determined by what traffic the lid will be subjected to (e.g. pedestrian, cars, trucks). The lids should provide adequate access for ease of cleaning and maintenance with the pit cover finishing slightly higher than ground level to reduce the potential for stormwater water ingress into the sewer. Pit risers and covers shall be effectively sealed during installation to prevent ground water entering the system.

10.4.5. Transfer Pumps

Pumps used to transfer greasy or oily trade waste effluent should be low flow, non-emulsifying type pumps. Generally this means a diaphragm pump.

Centrifugal and vortex pumps cause emulsification of grease and oil droplets making them unsuitable for effluent transfer prior to pre-treatment. However, once the trade waste effluent has been treated, if pumped discharge to sewer is required the only restriction on pump selection will be to ensure the pumps output is matched to stated maximum instantaneous flows as conditioned by the trade waste approval.

Pump flow rates should match the manufacturers stated capacity for their pre-treatment device i.e. an oil separator with a capacity of 1500 litres/hour should have a pump supplying effluent at a rate not exceeding 1500 litres/hour.

Quick Break Detergents in Oily Water Pre-treatment

If quick-break detergents are to be used in a pre-treatment facility, such as an oil separator, the detergent must separate and release the oils trapped within residence time of the facility.

Residence time is the time taken for a particle to move from the inlet of a pre-treatment facility to the outlet to sewer. If, for example, the residence time is twenty minutes, the detergent must breakdown and release the oil within twenty minutes. If the detergent does not breakdown within residence time, there is a risk that the oil may enter the sewer. In the sewer the detergents may then release the oil and untreated oily wastewater goes to Hunter Water's treatment works and becomes difficult to treat.

The 'quick break' effect is defined as:

"a cleaning operation, consisting of a nominated proprietary formulation, used at a specified strength, with specified washing and rinsing unit operations, which generates a wastewater that, after a fixed time, separates into an oily layer and an aqueous layer".

Businesses which use detergents to clean vehicles, mechanical parts or workshop floors, are required to use "quick break" detergents. These detergents assist the separation process where any type of oil separator is used as pre-treatment prior to sewer discharge.

When the oily layer and aqueous layer separate, pre-treatment equipment such as a Coalescent Plate Interceptor (CPI) can isolate the oily layer and allow the aqueous layer to pass to the sewer.

Detergents which are not "quick break" are unsuitable in that they allow the oily water to pass through the pre-treatment equipment direct to the sewer.

If the effluent from the pre-treatment equipment is "milky", this may indicate an emulsion has not 'broken' and a more efficient "quick break" detergent may be required or depending on the process, detergents may be able to be dispensed with, in favour of high pressure washing, hot washing or a combination of the two. Pre-



treatment manufacturers often recommend no chemical additives are used where practicable to ensure there is no loss of efficiency in the trade waste treatment process.

For suppliers of “quick break” detergents refer to businesses listed in the Yellow Pages under the heading: Cleaning Products and/or Suppliers or Soaps and/or Detergents and request a “quick break” detergent suitable for the relevant combination of cleaning operation and pre- treatment equipment.

The pre-treatment supplier and the trade waste generator will need to work with the suppliers of cleaning compounds to ensure satisfactory performance of the oil separator as using a ‘quick break’ detergent does not guarantee effluent quality compliance.

Petroleum based products are not suitable for discharge to the sewer. For example, some tar and spot removers are almost 100% hydrocarbon. If these products are an essential part of a process, alternative application and disposal options will need to be considered to keep them separate from the trade waste stream.

Material Safety Data Sheets (MSDS) for any chemical used in a trade waste process are required to be submitted to Hunter Water on request or with a Trade Waste Application.

Oil Separator Maintenance

All trade waste dischargers whose operations incorporate an oil separator are required to engage a qualified contractor to conduct scheduled servicing and maintenance on the pre- treatment system. Servicing and maintenance is generally conducted on an annual basis, however demand on the facility may increase the required frequency. Maintenance and servicing documentation must be kept on-site for review by Hunter Water’s Compliance Officer during trade waste inspection.

10.5. Plumbing and Drainage of Trade Wastewater Facilities

All trade wastewater facilities must be installed in accordance with the relevant Australian and Hunter Water Standards.

You must also install a tap within five metres of any pre-treatment equipment (e.g. grease trap) and a backflow prevent device on the inlet side of the tap.

10.5.1. Oil Separators

Discharge from an oil separator (hydrocyclone separation systems, corrugated plate interceptors and vertical gravity separators) shall connect to sewer via an inlet riser to a disconnector gully as shown in Figure 3 below. The method of connection to the gully will depend on whether the gully is an overflow gully or not. This point will be used for sampling the quality of the effluent from the pre-treatment equipment.

In the case of an overflow gully the discharge should connect into a junction in the riser of the gully through a tundish. The top of the tundish should be at least 100mm above the top of the overflow gully or if the tundish is located within the wash bay bund the top of the tundish should be 100mm minimum higher than the top of the bund to prevent any untreated wastewater discharge to sewer.

For disconnector traps other than overflow gullies, the connection can be as for overflow gullies or directly over the gully top maintaining a 100mm air gap between the discharge pipe and the top of the gully.

If the gully is located in the bunded area the top of the gully should terminate a minimum of 100mm above the top of the bunding to prevent any untreated wastewater discharge to sewer.

The oil separator connection to sewer should include a sampling point which may be provided by the required air gaps or couplings in the drainage line from the separator that allow temporary disconnection to allow placement of sampling equipment. An alternative sampling point may consist of a tee on the pump discharge pipe with a downwards facing valve that allows samples to be drawn off whilst the oil separator pump is operating.



10.5.2. Backflow Prevention

The installation of a trade waste pre-treatment facility will generally require the installation of backflow prevention. You must engage a backflow accredited licenced plumber to install and certify a site containment backflow prevention device/s at the property boundary downstream of the water meter/s servicing your property (site containment). There is also the requirement to install and certify a backflow prevention device/s on your internal water supply (zone/individual).

For confirmation of backflow requirements please refer to Australian Standards AS/NZS3500, AS/NZS2845, Plumbing Code of Australia and Hunter Waters Site Containment Backflow Prevention Standard.

10.5.3. Venting

Consideration should be given to venting to ensure that the requirements of the relevant Plumbing Codes & Standards are met.

Additionally, the following points should be noted:

1. Where pre-treatment (grease arrestors, cooling pits etc) aerially disconnects downstream drainage from upstream drainage additional venting may be required on the downstream drainage.
2. Grease arrestor and cooling pit induct and educt vents shall be 100mm high level vents.
3. Retention pit vents (oily water installations) shall be 100mm high level vents.
4. Induct and educt vents cannot be joined.
5. The potential for odours should be considered when sitting a vent.
6. Air admittance valves cannot replace induct vents on pre-treatment facilities such as grease arrestors.

10.5.4. Boundary Trap and Inspection Shaft

All new commercial properties with trade wastewater facilities require a 150mm boundary trap installed at the point of connection to Hunter Water's sewerage system. This enables inspection and sampling. Existing commercial properties already connected to Hunter Water's sewerage system incorporating a non-boundary trap connection are not required upgrade to a boundary trap connection.

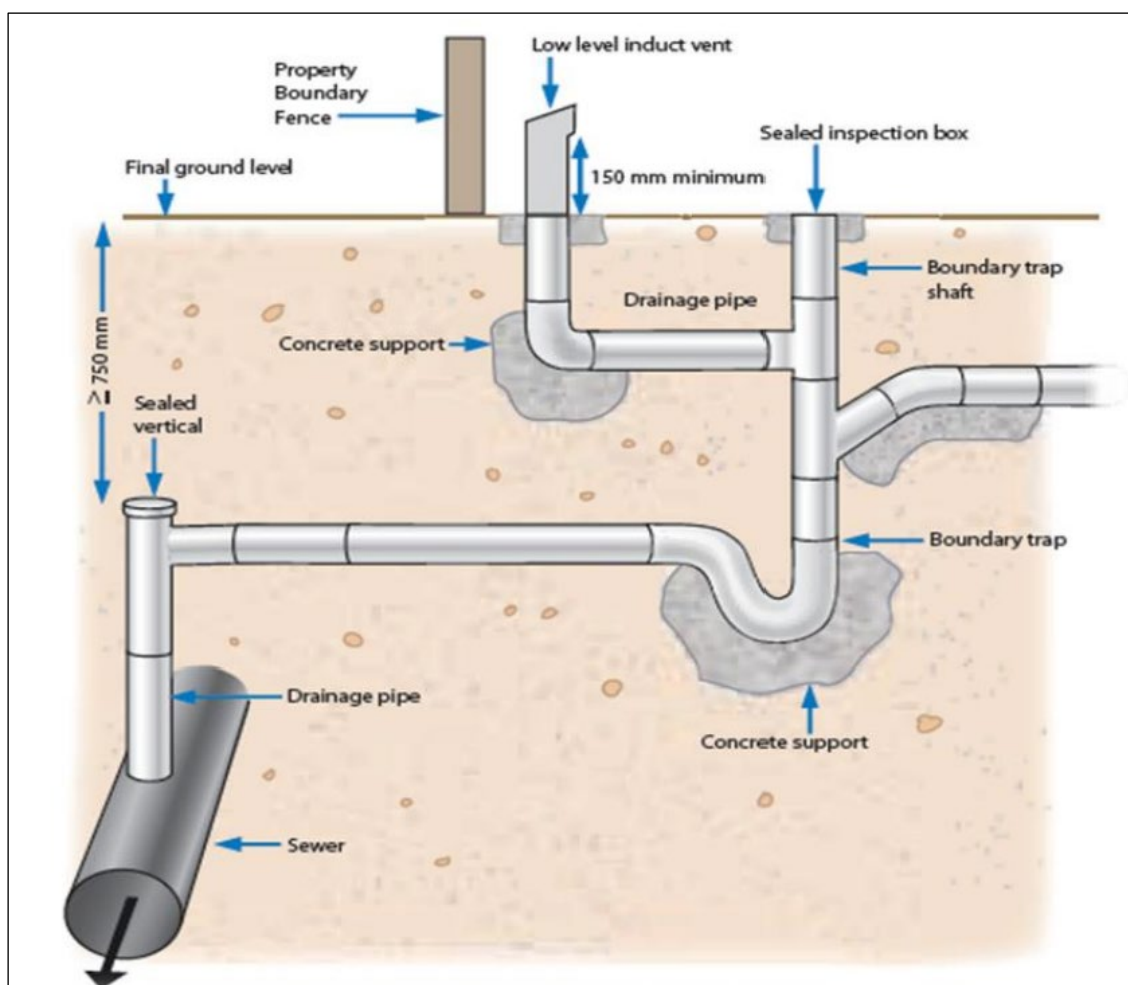


Figure 6: Example Boundary trap installation (image credit: Sydney Water)

10.6. Cooling Pits, pH Dosing Pits and Lint Screens

A cooling pit is required to be installed where a trade waste discharge is likely to exceed 38°C, e.g. laundry, boiler blow down, autoclave units, etc. Incoming hot waste is cooled down by mixing with cool wastewater already in the pit and retained there until the temperature reaches the acceptable level. Cooling pit capacity must be a minimum of 1000L.

A pH dosing pit is similar to a cooling pit, and is also known as a dilution pit or a general purpose pits. Wastewater is detained where it can be dosed with approved neutralizing agents or/and diluted with clean water prior to discharge. Breweries and distilleries require a pH dosing pit.

Laundry processes will require the installation of lint screens with a mesh aperture size of 1mm. These screens are normally incorporated as a component of the cooling pit.

Cooling pits and dilution pits shall be fitted with gatic type covers of a weight suitable for its location i.e.; heavy duty for heavy vehicular traffic, light duty for pedestrian only traffic. If the pit incorporates a lint screen, the cooling pit must be located and configured to allow easy access for inspection and maintenance by on-site employees/maintenance staff. Heavy lids are not suitable in these instances.

The pit shall be vented with a 100m vent to allow cross ventilation for cooling from the chamber vent to the upstream vent. As the outlet assembly of the cooling pit aerially disconnects the pit from downstream drainage additional venting may be required for the downstream drainage if unvented branch distances are exceeded.

A separate sampling point is not required after the cooling pit as the outlet riser is suitable for the collection of samples.



10.7. Roofing of Trade Wastewater Generating Areas

When a trade waste generating process does not fully occur within a building, suitable roofing must be constructed to prevent the ingress of rainwater to the sewer. For a structure where one or more sides are open to the weather, 10 degrees from the vertical of overhang of the roof is the minimum acceptable cover over the bund.

To ensure that no surface stormwater can flow onto the trade waste generating process area, bunding of a step or speed hump type with a minimum height of 150 mm high around the area will be necessary. A stormwater drain solely on the upper side of the area is inadequate: stormwater flow will often bridge over the grate and enter the area. The overall surface water flow across the site must be considered and the height of the bund/speed hump may have to be increased to prevent stormwater flow onto the process area.

All surfaces external to bund must fall away from the bund.

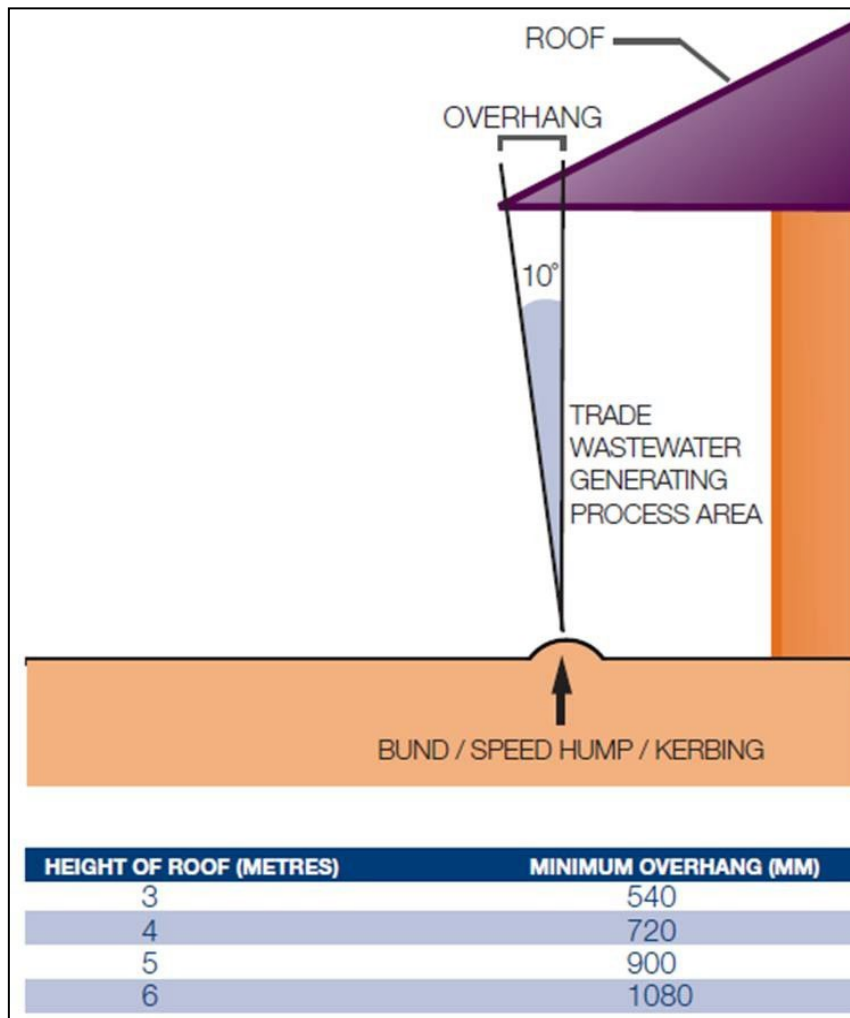


Figure 7: Roofing of Trade Wastewater Generating Areas



10.7.1. First Flush System

It is Hunter Water's preferred option to have all trade waste generating areas roofed to prevent rainwater ingress to the sewer system. In exceptional circumstances Hunter Water may permit an unroofed area to discharge to sewer after all other alternatives have been fully investigated. This scenario must incorporate a "first flush system" which directs up to 10 mm of "first-flush" trade wastewater into the sewer and the subsequent flow to an approved stormwater discharge point. This diversion of water flow is generally initiated by a rain sensor.

The 'first flush system' requires mandatory prior approval from Hunter Water, Local Council and EPA.

Hunter Water requires any "first flush system" to be inspected and certified as operational on an annual basis (minimum) by an accredited contractor with certifying documentation forwarded to Hunter Water.

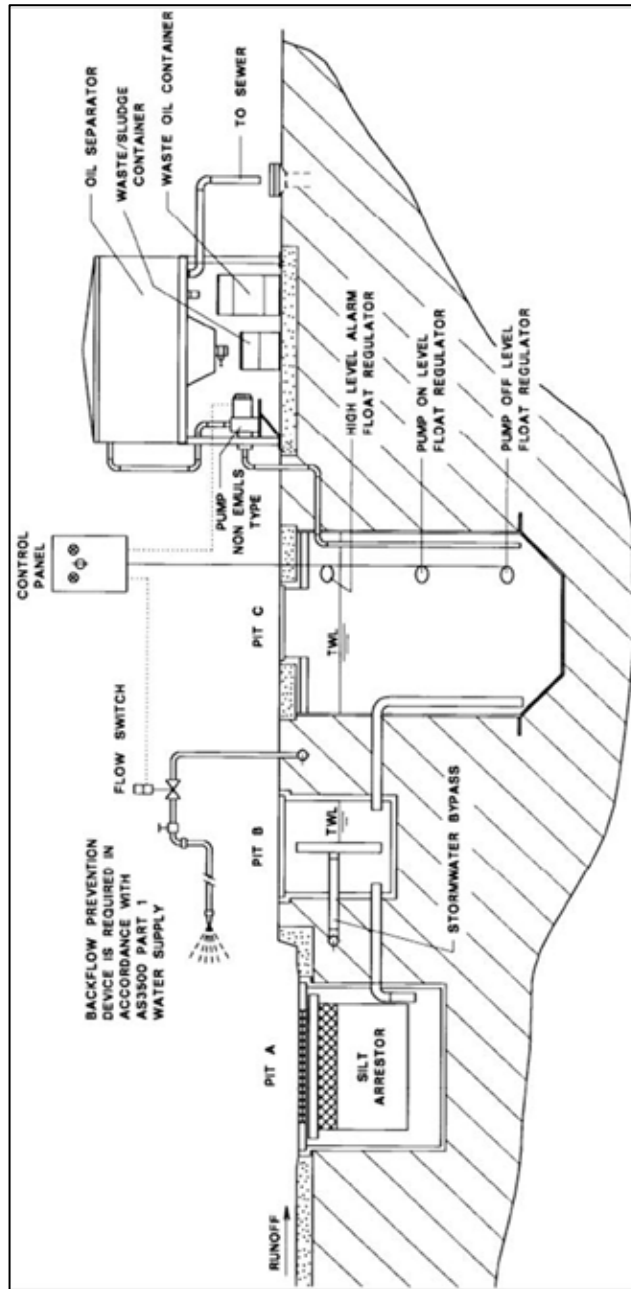


Figure 8: First Flush System Schematic



11. Definitions, Acronyms and Abbreviations

Term	Definition
Accredited person / tester	A licensed plumber who holds accreditation from a Registered Training Organisation (RTO) for backflow prevention device commissioning and certification.
Act	The Hunter Water Act 1991
Applicant	A person applying for a trade wastewater Deed to discharge trade wastewater to Hunter Water's sewer.
AS/NZS 2845 Parts 1, 2 and 3	Australian / New Zealand Standard 2845 (1,2 &3) specifies requirements for the materials, design, performance and testing of mechanical backflow prevention devices that are used for the protection of water supplies.
AS/NZS 3500	Australian / New Zealand Standard 3500 for Plumbing and Drainage
AS/NZS 5215 (draft)	Australian / New Zealand Standard 5215 for Grease Arrestors
Backflow	Backflow is the unintended flow of water from any domestic, industrial or institutional piping system into Hunter Water's drinking water supply system. Backflow can be caused by a loss of pressure in the drinking water supply main or by the flow from a pressurised system through an unprotected cross connection.
Backflow prevention device	A device to prevent the reverse flow of water from a potential contaminated source, into the drinking water supply.
Biological Treatment	This involves bacteria consuming the organic parts of an effluent within a controlled system, e.g. activated sludge or trickling filters.
Biological Oxygen Demand (BOD)	A measure of the amount of oxygen consumed by micro-organisms in a given sample at a given temperature (See 'Oxygen Demand').
Cross Connection	Any connection or arrangements between the systems, connection to the water main or any fixture that may enable non-drinking water or other contamination to enter the system.
Customer	The property owner within Hunter Water Corporation area of operation that is connected to a water infrastructure.
Customer Contract	Means a contract of a kind referred to in Section 36 (1); of the Act as set out in Schedule Two of the Operating Licence.
Deed	Also referred to as a Trade Wastewater Deed. This is a legally binding document setting out the conditions that the applicant, owner or occupier as appropriate, must comply with before it may discharge any substance other than normal domestic wastewater to a sewer or stormwater channel operated by Hunter Water.
Discharger	A business/company discharging trade wastewater to Hunter Water's works.
Drinking Water supply	The supply system into which Hunter Water Corporation delivers drinking water.
EPA	NSW Environment Protection Authority
Hunter Water	Hunter Water Corporation
Prohibited Substances	Prohibited Substances, in accordance with the Act and this Standard, are substances which may not be discharged to a sewer or stormwater channel operated by Hunter Water without the prior written permission of Hunter Water.



Term	Definition
Pre-treatment Facilities	Means any apparatus or equipment used to modify the characteristics of an effluent prior to its discharge into Hunter Water's works, and can include grease traps, oil separators, dilution pits, etc.
Recycled Water	Highly treated wastewater that can be used in industrial processes, to irrigate agriculture, urban parks and landscapes, and in the home for flushing toilets, car washing and watering gardens. It is not used for drinking or personal use.
Residential	For the purposes of this Standard, residential is defined as suburban style lots sized <1500 square meters (excludes rural, commercial, industrial or mixed-use lots).
Service Provider	The Company managing Hunter Water's Wastewater Treatment Works
Site containment	The installation of a backflow prevention device on the water supply system at the property boundary, to prevent backflow from within the property entering the supply system.
Suspended Solids	Suspended solids or Non-filterable residue (NFR) is a measure of the suspended particles in an effluent, and is determined by retention on a prescribed filter.
Trade Wastewater	Trade wastewater is defined as the liquid waste generated from any non-residential property (commercial or industrial, business, trade, or manufacturing process). It does not include domestic wastewater.
Trade Wastewater Pre-treatment device	An apparatus or equipment which modifies the characteristics of wastewater to align with allowed sewer discharge levels. Examples: <ul style="list-style-type: none"> • Grease Arrestor • Oil Separator • Dilution Pit
Treatment Facilities	Hunter Water's Wastewater Treatment Works whose operations include the treatment of sewage and trade wastewater prior to discharge to the environment.
WWTW	Wastewater Treatment Works
Works	Means water mains, sewer mains, wastewater treatment works, drainage channels and any works ancillary to those works.

12. Associated Regulations and Standards

Document ID	Document Title
Contract	Hunter Water Customer Contract 2022-2027
Licence	Hunter Water Operating Licence 2022-2027
Standard	Wastewater Services Connection (Hunter Water)
Code	Plumbing Code of Australia
Regulation	AS/NZS 3500 Plumbing and Drainage