TRADE WASTE INFORMATION SHEET

21. MECHANICAL REPAIRS

Preface

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

1. The definition of trade waste is;

- *The waterborne waste from business, trade or manufacturing property, other than:*
    - *Waste that is a prohibited substance; or*
    - *Human waste; or*
    - *Stormwater.*

2. The definition of Domestic waste is;

- *Faecal matter and urine of human origin and liquid household wastes from water closet pans, sinks, baths, basins and similar fixtures designed for use in private dwellings*

Description of activity

Mechanical repair activities include the following facilities:

- a stand-alone garage
- a stand-alone mechanical workshop
- a service station workshop only (no forecourt discharge)
- lawnmower repairers that conduct mechanical repairs only and no other processes
- motor boat repairers that conduct mechanical repairs only and no other processes.

It does not include mechanical workshops associated with an industry, e.g. a workshop at an airport, bulk fuel depot, train depot and engine re-conditioners.

It does not include mechanical workshops located at a service station if there is a discharge from a covered forecourt to the sewerage system or a refuelling bay. It also does not include radiator repairers.

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

Pre-treatment requirements

A collection well and non-emulsifying pump must be provided to collect:

- water used for washing of mechanical equipment or parts
- floor washdown.

A coalescing plate interceptor (CPI/CPS) with a minimum capacity of a 1000 L/h or a vertical gravity separator (VGS) or hydrocyclone separation system (HSS) sized according to the influent flow rate must also be installed to treat the wastewater.

In instances where the flow rate will exceed 1000 L/h, a larger capacity unit will be required and must be sized according to the influent flow rate. The applicant must provide supporting information in regard to sizing and recommended maintenance schedule with the application.

The units should be installed as per the manufacturer's instructions, and where applicable the distributor or supplier must be able to guarantee supply of parts and service maintenance.

A dry basket arrestor or screen must be fitted to all floor wastes that drain to the sewerage system, to strain out gross solids such as rags and packaging.

An oil arrestor is more efficient if detergents are not used, e.g. cleaning done using high water pressure. If the use of detergents cannot be avoided, only quick-break detergents should be used.

Degreasers must not be discharged into the sewerage system. Further, only non-emulsifying pumps should be used to pump the liquid waste to the separator.

Note that double and triple interceptor pits and general purpose pits are not considered to be, nor are they approved as, appropriate pre-treatment equipment units for this type of wastewater.

Other requirements

Housekeeping practices

- Businesses that use detergents to clean vehicles, mechanical parts or workshop floors are required to use quick-break detergents only. These detergents assist the separation process where any type of oil arrestor is used as pre-treatment
- Oil spills should be dry cleaned prior to washdown
- Grease blobs should be scraped up before washdown
- Screens may be used to exclude nuts, washers and the like from the pump intake
- Cleaning compounds must be compatible with the pre-treatment system
- Oils and solvents should be stored in a separate bunded area that cannot drain to the sewerage or stormwater systems
- Petrol, diesel fuel, discrete oil, kerosene, solvents and other flammable and/or explosive substances must not be discharged

- Any oil or chemical containers must be stored in such a manner that spills or leaks are prevented from entering the sewerage or stormwater systems.

Stormwater

The wash area must be roofed to exclude rainwater from the sewerage system. Measures are also required to divert any stormwater away from the wash area(s).

Where the areas are unroofed or partly roofed and it is not possible to roof them, measures will need to be taken to divert stormwater away from these areas. Measures will also be required to minimise the volume of rainwater that falls onto the actual wash areas from entering the sewerage system.

Important Note:

The discharge of stormwater to sewer is not permitted. All broad areas draining to sewer such as wash down bays must be roofed and bunded to prevent the entry of stormwater, including rain descending at an angle of up to ten degrees from the vertical. If bunding is not practical or possible, then grated stormwater drains and/or the grading away of surfaces surrounding the sewered area may be used to achieve the same purpose. In all cases the design must prevent runoff from any storm with an intensity of up to a 20 year Average Recurrence Interval (ARI) from entering the sewer. Where the stormwater catchment threatening the sewered area with inundation, is greater than 100 square metres, the application must be accompanied by a certificate from an engineer who is currently registered on the Queensland Professional Engineers Register, to verify the design's capability. The customer must ensure that stormwater drains remain free from debris and/or other obstructions that would restrict or block the flow of stormwater.

Electrical equipment used in treating liquid trade waste

Flammable Class 3 liquids (see Australian Dangerous Goods Code), such as petrol, kerosene or other solvents, are potentially dangerous in the workplace. Although these substances must not be discharged to the sewerage system, there is the potential for them to be present or situated near an oil arrestor. Where a process has flammable liquids present, all electrical equipment within a defined area must be of special construction to avoid a dangerous situation occurring. For instance, if the applicant is proposing to install an oil arrestor, they must check that the electrically operated pump and other electrical devices have the correct electrical rating for the purposes for which they are used. A licenced electrical contractor must connect the treatment system to the electricity supply. The contractor will then submit to the electrical distributor a notice on the electrical work performed at the premises and provide the applicant with a copy.

Draining of radiator coolant

Large quantities of ethylene glycol have the potential to upset the operation of the sewerage system and therefore must not be discharged to the system. Further, large quantities of

ethylene glycol increase the emulsification of oils and greases and thereby reduce the efficiency of HSS, VGS or CPI/CPS systems. All radiator coolant should be collected and securely stored for recycling or disposal to an appropriate treatment facility.

Use and disposal of solvents

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

It is recommended that applicants read the material safety data sheets for the products used on site.

Table 1: Typical constituents found in automotive products

Product/Chemical	Constituents of concern
Antifreeze	ethylene glycol
Automatic transmission fluid	Petroleum distillates
Battery acid (electrolyte)	Sulphuric acid, metals
Bug and tar removers Xylene	petroleum distillates
Car wash detergents	Alkyl benzene sulfonates, phosphates
Car waxes and polishes	Petroleum solvents, alcohols, glycol ether
Degreasers (driveways/garages)	Petroleum distillates, hydrocarbons, metals
Degreasers (engines)	Chlorinated hydrocarbons, toluene, phenols
Diesel fuel, kerosene, heating oil	Hydrocarbons
Engine and radiator flushes	Petroleum solvents, ketones, butanol, glycol ether
Gasoline/fuel	Hydrocarbons
Grease lubricants	Hydrocarbons
Hydraulic fluid (brake fluid)	Hydrocarbons, fluorocarbons
Metal polishes	Petroleum distillates, isopropanol, petroleum naphthalene
Motor oils and waste oils	Hydrocarbons
Rustproofers	Phenols, metals

Maintenance

It is the responsibility of site management to ensure the effective operation of all pretreatment equipment, by ongoing removal of accumulated material from channels, silt traps and coalescing plate packs, and timely removal of accumulated solids from settling pits by a licensed liquid waste contractor.