

Self-Monitoring of Trade Waste Apparatus for Schools

Procedural guide to the self-monitoring of trade waste pre – treatment devices

Introduction

Manual for self monitoring of trade waste apparatus

The purpose of this manual is to advise and assist customers deemed minor Trade Waste and/or where applicable in giving regular approved maintenance to trade waste apparatus to ensure conformity with current South East Water policy on trade waste discharge to sewer.

Written evidence shall be retained on a file on site of any routine / scheduled maintenance carried out including any EPA transport dockets as proof of proper collection, transportation, treatment and disposal of prescribed trade waste . A Trade Waste officer may request to see this documentation during any visit to the site.

It is recommended that display sheets be prepared by the customer giving clear instructions to staff on maintenance required to the various trade waste pre-treatment apparatus and that they be placed in prominent places above or in close proximity to the area concerned.

Environmental Protection Authority (EPA)

www.epa.vic.gov.au

A list of EPA contractors licensed to transport and dispose of prescribed waste i.e. Food and Oil Interceptor (FOI) waste, Petrol and Oil Interceptor (POI) waste, Solvent and Oil Interceptor (SLI) waste etc, is available from the EPA website.

Self-monitoring of trade waste apparatus.

Basic equipment needed for maintenance of typical trade waste apparatus.

1. Pair of Gatic lifters for cover removal for in ground apparatus.
2. Plunger (an old broom handle or similar is ideal), to check depth, sludge layer, thickness of floating payer.
3. pH meter or pH paper, to check pH of neutralizer. Available from laboratory supplier.
4. Sample bucket and or clean beaker.
5. Stockpile of marble chips for marble chip neutralisers. In ground neutralisers require 2 or 3 25kg bags while portable units approximately ¼ to ½ a bag. Available from stone masons, garden supplies or some trade waste apparatus manufacturers.
6. Concrete test block.

Recommended maintenance schedule

Note: In all cases the contents of the treatment apparatus are prescribed waste and must be pumped out and disposed of by a registered EPA contractor.

The contractor can and should be always able to supply an EPA certificate as proof of responsible waste disposal.

1. Home Economics area - Food and Oil Interceptors (FOI) - (Drawing No : AM4)

Usually Food and Oil Interceptors are in ground and between 600 to 5000 litres in size. Food and Oil Interceptors need to be pumped out every 4 months.

2. Photography areas - Mixing Tanks – (Drawing No : AM6)

This includes developer, fixer trays, and acid tanks. Spent photographic chemicals are not to be discharged to sewer.

Mixing tanks are usually found under an acid/photographic sink or trough and are approximately 100 litres in size. They should have a sample valve on the outlet pipe to allow sampling of the waste. pH should always be between 6.00 and 10.00.

Used and unused chemicals should always be placed in a container and stored for off-site disposal by a licensed waste contractor. Only rinsing of developer and fixer trays is permitted.

Mixing Tanks need to be pumped out every 12 months, or more regularly as required dependent upon usage, by a licensed EPA contractor.

3. Science laboratories – Acid Neutralising Tanks – (Drawing No : AM7)

Portable neutralisers are generally located beneath science lab sinks and are approx 100 litres in capacity, compared to in ground units which are usually located externally and have an average capacity of 600 litres. Inside each of these units is filled to approx 60% capacity with marble chips, which assist in neutralising the waste discharge. A testing chamber is provided on the outlet side to check the pH of effluent going to sewer. The pH should be checked regularly. pH should always be between 6.00 and 10.00. If the pH is found to be outside of these limits, then the first step is to clean the neutraliser and replenish the marble chips.

Acid neutralising tanks need to be pumped out every 12 months, or more regularly as required dependent upon usage, by a licensed EPA contractor.

4. Mechanical workshops – Silt Pit (Drawing No : AM12) + Petrol and Oil Interceptors (POI) - (Drawing No : AM5)

Located in ground and have a capacity of 1100 litres. Primary treatment must be via a Silt Pit (Drawing No : AM12), which should be cleaned regularly by removing the bucket and cleaning the silt out of the bucket and shovelling excess silt from the pit. Petrol and Oil Interceptors need to be pumped out every 12 months, or more regularly as required dependent upon usage, by a licensed EPA contractor.

5. Arts and Craft – Clay and ablution trough and/or Solvent and Oil Interceptor- Drawing No : AM9)

Incorporated in the clay and ablution trough is a fixed standing pipe waste pipe and gate valve to bleed off clay residue.

If cleaning screens, from screen printing or art utensils with solvents, the trough should be connected to a Solvent and Oil Interceptor located under the trough. The water capacity of the solvent and oil interceptor is generally half the hourly maximum volume of discharge through the trough or 100 litres. A sample valve on the outlet is used to check that no floating layer discharges to sewer. Solvent and Oil Interceptors need to be pumped out every 12 months, or more regularly as required dependent upon usage, by a licensed EPA contractor.

Photographic discharge

Photographic discharges include;

1. Black and white film processing
2. Black and white paper processing
3. Colour film processing
4. Colour paper processing
5. Plate processing
6. Pre-sensitised plate processing
7. X-ray developing

Analytical results have shown that the discharge from photographic processing machines and equipment containing spent photographic solutions exceed trade waste acceptance standards. The trade waste standards were established to ensure;

1. Protect the health and safety of people working in the system.
2. Protect sewerage systems.
3. Protect the treatment plants.
4. Minimise environmental impacts.
5. Maximise opportunities for reuse of waste water and biosolids.

Disposal of spent photographic solutions to sewer puts the above objectives at risk and subject South East Water to additional treatment costs.

The only acceptable alternative is comprehensive treatment of spent photographic solutions and rinse waters to ensure compliance to the trade waste acceptance standards.

Each photographic discharger shall apply to South East Water to discharge trade waste into the sewer and the discharge shall be managed by a Trade Waste Consent and subject to trade waste charges.

Only photographic rinse water will be accepted to sewer via a mixing tank (Drawing No : AM6) with a minimum retention time of 15 minutes or 100 Litres. No spent photographic solutions shall be discharged to sewer and spent photographic solutions shall be separately stored in containers for offsite disposal. Documentation and receipts for spent photographic solution removal from site, by registered EPA contractors shall be made available for inspection by South East Water's Trade Waste Officer. Spent photographic rinse water shall not be discharged to any copper tube plumbing installation upstream or downstream of the mixing tank.

Summary of approved trade waste treatment drawings

Drg No.	Description	Function	Component and characteristic of waste to be reduced	Industry or activity where commonly used	Comment
AM4	Food and Oil Interceptor	Food, fat, oil and grease (FFOG) interception.	Food, fat, oil and grease (FFOG).	Businesses that handle food where washing up is required.	Refer to the Food and Oil Interceptor Sizing Criteria.
AM5	Petrol and Oil Interceptor	Petrol and Oil Interception.	Petrol and Oil.	Vehicle washes, mechanical repairs, engine parts wash.	Minimum size 1100 litres.
AM6	Mixing Tank	Mixing .	Acid and alkali effluents.	Photographic processing	Useful where small volumes of waste may be mixed to produce an acceptable effluent.
AM7	Acid Neutralizing Tank	Acid neutralizing.	Acid.	Small laboratories, science sinks in schools etc.	Not suitable for use with sulphuric acid as chips become coated with calcium sulphate sludge.
AM8	Settling Tank	Settling.	Silt, plaster, glass grindings.	Plaster sinks, soil labs sinks, optical sinks.	Tank shown on drawing is suitable for under sink use but may be enlarged for in ground application.
AM9	Solvent and Oil Interceptor	Floating layer interception.	Solvents, oils, petrol, etc.	Lab sinks, small degreasing troughs for parts washing, silk screen printing.	Minimum 30min retention time required.

AM10	Straining Pit	Straining and settling.	Lint, fibrous material.	Dye house, laundry and laundrettes.	This drawing specifies the minimum dimensions only. Larger units may be installed.
AM11	Test Sump	To facilitate sampling of waste.		Where sampling of waste cannot be undertaken at outlet of treatment facility.	
AM12	Silt Pit	Straining and settling.	Dirt. Grit, sand, Broken glass.	Where larger volumes of solids are present in waste i.e. car wash, truck wash, bottle washing.	Not suitable for food processing as water held in pit could become odorous.
AM13	Silt Trap	Straining.	Dirt, grit, sand.		Not suitable for car wash as silt would block trap.
AM2150	Straining and Cooling Pit	Straining and cooling.	Lint, fibrous material.	Dye house, laundry and laundrettes.	Capacity of tank is determined by sizing formula.

For further information please contact the Trade Waste team on 9552 3662 or tradewaste@sew.com.au.