

Slipway operation

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Trade waste discharges from slipway facilities or companies conducting vessel repairs such as engine maintenance, hull cleaning and painting could harm the sewerage system. Wastewaters might contain suspended solids, grease/oils, anti-fouling chemicals (e.g. lead, copper and tributyl tin).

Unauthorised stormwater discharges to sewer are specifically prohibited under the [Water Industry Act 2012](#), to prevent flooding of sewers. The discharge of contaminated stormwater to the environment is prohibited under the [Environment Protection Act 1993](#). Therefore, to protect both the environment and the sewerage system, suitable roofing and bunding is usually required to segregate the wastewater and clean stormwater streams.

In **exceptional** circumstances such as slipways servicing tall vessels, where roofing is not practical, we may agree to accept contaminated stormwater from work areas to sewer. Appropriate management practices at these sites are set out in this guideline.

Key trade waste quality requirements

Parameter	Generally accepted level	
	Metro wastewater treatment plants	Country wastewater treatment plants*
Suspended solids	≤500 mg/L	≤500 mg/L
pH	Between 6-10 units	Between 6-10 units
Total dissolved solids	≤1500 mg/L	≤1500 mg/L
Tributyl tin (TBT)	100 nano gram/L	Dependant on capacity of receiving WWTP
Flow rate to sewer	Dependant on capacity of receiving sewer	Dependant on capacity of receiving sewer

*Country wastewater treatment plants are generally only able to cope with much smaller pollutant or hydraulic loads than metropolitan plants.

Note: Discharge limits may be varied under certain circumstances for individual dischargers.

Design/installation

- Ballast, bilge and seawaters are prohibited from discharge to sewer. These must be removed by a licensed liquid waste contractor for off-site treatment and disposal.
- The slipway, cleaning and wash down facility design minimises the area that is unroofed and the facility is used only for cleaning marine growth from the hull.

- The facility is bunded to contain all wash down water and exclude clean stormwater runoff from entering the slipway, in accordance with the [Bunding and Blind Tank Guideline](#).
- Wash water and initial 'first flush' stormwater falling on the dirty area will be accepted to sewer after appropriate pre-treatment. The [Environment Protection Authority](#) (EPA) recommends the first flush tank capacity should contain runoff volume from a 10mm rainfall event when pollutants are easily mobilised such as dusts or sediments and 15mm rainfall if less mobile pollutants such as oil and grease are present, but this might vary at individual sites. A rain gauge coupled to the control panel monitors rainfall events.
- When a rainfall event exceeds the first flush volume, the pump is deactivated. Further stormwater flow is therefore directed to the stormwater drain. Note that because first flush may be variable, it is the responsibility of the operator to ensure any discharges to the stormwater drainage network comply with the [Environment Protection Act 1993](#) and the Environment Protection (Water Quality) Policy 2015. **Activities likely to introduce new contamination during rainfall events are not permitted.**
- Discharge of collected wash water and first flush rainfall to sewer is delayed until after a rainfall event has passed to avoid flooding of the sewer.
- Solids from work areas of slipway are removed by dry cleaning/sweeping prior to wash down.
- All wastewater tanks, pre-treatment devices, treatment chemicals etc. are bunded in accordance with the [Bunding and Blind Tank Guideline](#) and the [EPA Guideline Bunding and Spill Management](#).

Typical pre-treatment

- All wash water and contaminated first flush stormwater is directed to sewer via:
 - A suitably sized screening device (silt trap and/or screen with maximum 5mm size mesh) discharging via a stormwater bypass chamber to a pump chamber.
 - A float operated pump transfers waste water to the settling tank.
 - A chemical addition system (e.g. coagulants and flocculants) dosing into the solids settling tank, to aid separation, if the suspended solids, heavy metals, or other contaminant concentrations exceed the [Restricted Wastewater Acceptance Standards](#).
- Wastewater from the settling pit overflows to a holding tank big enough to hold the first flush. A solenoid valve on the outlet, coupled to a control panel, opens once the stormwater peak flow has passed the site, discharging waste water to the sewer at a controlled, slow rate.
- All clean stormwater (i.e. that falling after the first flush) is diverted away from sewer and discharged to the stormwater system.
- See *Figure 1* for a typical layout of a contaminated stormwater treatment system.

Additional pre-treatment

- Balance tanks for wastewater storage may be required depending on the hydraulic capacity of the local sewer network or wastewater treatment plant.
- An oil water separator will be required if any oily waste waters (e.g. engine maintenance) discharge into the system.
- Where antifouling paint containing Tributyl tin (TBT) may be applied or removed, all supernatant is discharged to sewer via a granulated activated carbon (GAC) bed. The GAC will require replacement as the concentration of TBT nears the 100 nano-gram per litre discharge limit.

Maintenance

It is the responsibility of site management to ensure the effective operation of all pre-treatment equipment (e.g. ongoing removal of accumulated solids, sludge removal, chemical replacement.)

An appropriate maintenance program is needed, to test that the entire diversion and pre-treatment system operates correctly.

Fees and charges

An annual fee for discharge of stormwater to sewer will apply. For the current fee schedule, visit our [website](#) or call us on 1300 SA WATER.

More information

Mains Water Protection (AS/NZS 3500.1:2015)

[Backflow Prevention Requirements - Office of the Technical Regulator](#)

Figure 1: Contaminated stormwater treatment and diversion system

