

## Introduction

Waste water from washdown bays typically contains detergents, degreasers and oily residues. This wash water can be high in nutrients and/or hydrocarbons and poses a considerable threat to the environment if discharged untreated. Any business proposing to install a washdown bay must ensure it is approved by the relevant authority. For premises connected to sewer this will require the approval of the Water Corporation.

Any business proposing to wash vehicles or equipment within a wash down bay and discharge the waste water on site (ie where sewer is not available) is required to apply to the City by completing the Construct or install effluent disposal system application form which is available on the City's Website. For applications where the daily waste water volume exceeds 540 litres, the application will be forwarded by the City to the Department of Health WA for approval.

The application to install a wash down bay is available from the City's website at: [http://www.wanneroo.wa.gov.au/downloads/download/202/effluent\\_and\\_septic\\_systems](http://www.wanneroo.wa.gov.au/downloads/download/202/effluent_and_septic_systems)

Applicants should be aware of the following:

- Construction/installation of the wash down bay shall not commence until approval has been granted by the City or the Department of Health WA.
- A final inspection of the wash down bay is required to be carried out by Environmental Health Services prior to use.

## Do I need any other approvals?

Regardless of whether it is connected to sewer or septic Planning Approval may also be required in the form of a Development Application. For systems greater than 20m<sup>2</sup> in area a roof structure is also required and this will require a Building Licence. Please contact the City's Approval Services on 9405 5000 for further information.

## Recommendations for washdown bays

In order to contain washwater, the washdown bay pad should be of sufficient size to prevent any over-spray or splashes from escaping its confines. A recommended rule is for the washdown pad being designed to have roughly 2m greater width and length than the largest vehicles or equipment to be washed. The pad must be made from an impervious material such as concrete and engineered to withstand the loads which will pass over it throughout the life of the pad without structural damage.

The washdown bay pad should have a raised perimeter bund at least 75mm high and 100mm wide surrounding the pad on which the washing is to occur unless alternative containment measures such as walls have been proposed. Bunding in the form of installed speed humps at the entry and exit points of the wash bay should also be provided in order to divert surface rainwater run-off away from the wash area.

The wash bay floor should be graded to drain towards a collection point or channel connected to the sediment trap or pump tank. The washbay floor and the drainage channel must have a minimum grade of 1:80. This will ensure the washwater is able to drain adequately without pooling or overflowing the bunds.

### **Sediment Trap**

A sediment trap is often required to remove sediment from washdown bay washwater prior to disposal. The size of the sediment trap required will depend on the contamination levels of the vehicles or equipment being washed, the volume and flow rate of the incoming washwater and the time needed for sediment to drop out of the washwater in the trap. Sediment traps should be inspected and cleaned on a regular basis to remove sediment.

### **Oil / Water Separators**

An oil/water separator is often required to remove oil from washdown bay washwater prior to disposal. Washdown bays connected to an approved oil/water separator such as a vertical gravity separator (VGS), coalescing plate separator (CPS), or hydro cyclone unit should be designed to consistently produce a waste stream (the watery part once the oil has been removed) with a maximum hydrocarbon level of 30ppm (roughly 30mg/L). Note that triple interceptors will no longer be approved as the primary or main oil/water separation device in any washdown bay process.

### **Holding Tanks**

The Department of Health may approve of a washdown bay disposing washwater into a temporary holding tank for offsite disposal. If a holding tank is approved for installation it should have backup systems such as floating cut-off switches, alarms, or overflow tanks installed in case of pump failures or holding tank overflows.

### **Leach Drains**

Leach drains connected to any washdown bay must be installed in accordance with the requirements of local government and the *Health Miscellaneous Provisions Act 1911*.

### **Backflow Devices**

All washdown bays connected to a mains water supply must have a backflow device installed, as required by the Water Corporation. Vehicle and machinery washdown bays are deemed to be a high hazard backflow risk and therefore a boundary containment device is required to comply with the Water Corporation Backflow Prevention Policy.

### **Washdown Bay Roofing**

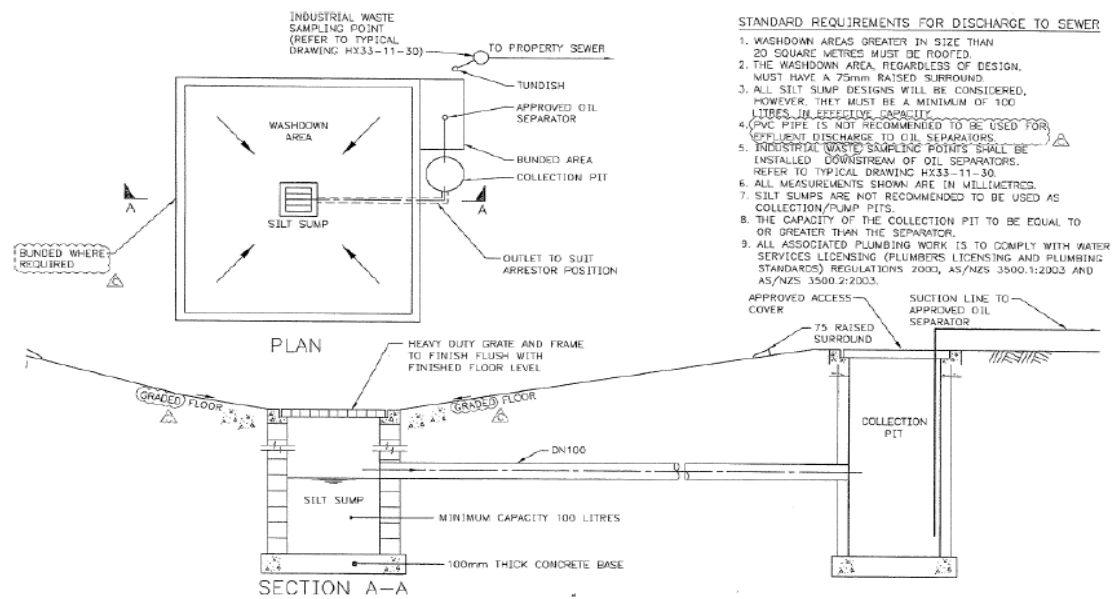
All washdown bays within the City of Wanneroo over 20m<sup>2</sup> in area are required to be roofed to adequately contain washwater and prevent the ingress of stormwater. For areas less than

20m<sup>2</sup> a roof structure is not mandatory although it is recommended. This helps minimise running costs as you do not have to process uncontaminated rainwater.

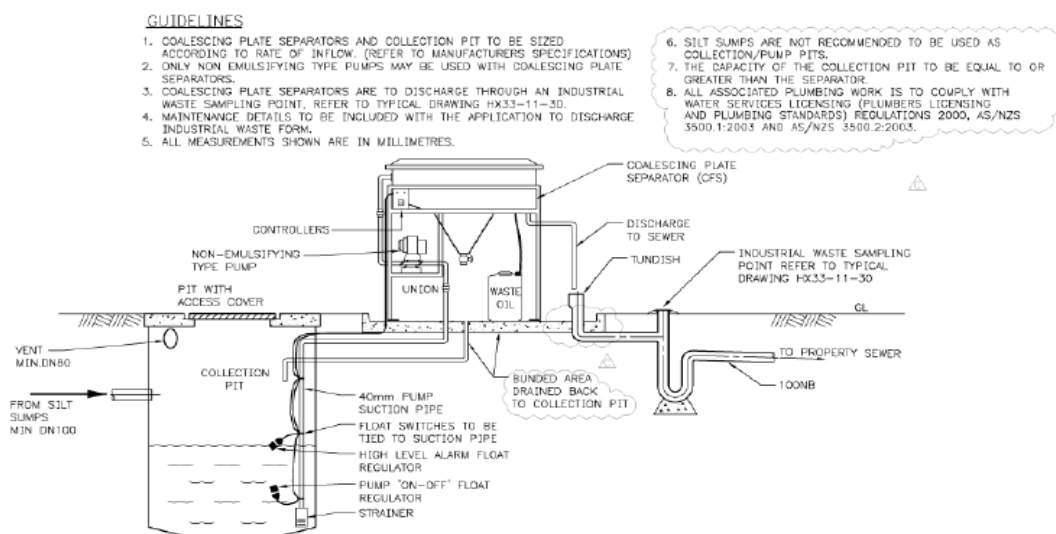
## Sampling Points

An inspection and sampling point should be provided prior to the point where any washdown bay waste water is disposed of either to sewer or onsite effluent disposal system.

### Typical washdown bay setup (image taken from Water Corp diagram HX33-12-20)



### Typical small plate separator (image taken from Water Corp diagram HX33-12-10)



## Testing

In order to ensure the system is operating correctly owners should periodically undertake testing. Samples should be collected and analysed through a NATA accredited laboratory to ensure required discharge criteria are being adhered to. A copy of the sample testing results shall be kept onsite for a minimum of 3 years and presented to local government on request. In addition the City or Water Corporation may undertake their own sampling of the system. The Department of Water's Water Quality Protection Note 68 has more information on discharge criteria.

### Indicative waste water criteria acceptable to the City of Wanneroo:

Measured component	Limiting criteria
pH	Within the range 5.5 to 8.5
Salinity (measured as electrical conductivity)	1800µS/cm (maximum)
Surfactants (detergents)	5 mg/L (maximum)
Total petroleum hydrocarbons	30 mg/L (maximum)
BTEX (benzene, toluene, ethyl benzene and xylene)	10 µg/L (cumulative maximum)
Other toxic soluble contaminants	Ten times the guideline criteria or investigation trigger for local water values as published in the relevant National water quality management strategy guideline criteria to protect local water resource values

## System maintenance

The City of Wanneroo requires maintenance arrangements in line with the manufacturer's recommendations to be implemented for any apparatus connected to a washdown bay. If the washdown bay is connected to sewer the Water Corporation may establish its own maintenance requirements. For more information, refer to the manufacturer's directions or contact the Water Corporation.

### Quick break detergents and degreasers

All washdown bay operators using detergents or degreasers to wash vehicles or equipment should use quick break products. This will allow the oily washwater to de-emulsify in the pump tank prior to entering the oil/water separator.

Hydrocarbons and quick break residues recovered by an oil/water separator should be stored in weather-proof containers for recycling. Waste oil is a controlled waste substance and must be removed by a licensed liquid waste contractor.

### Nutrient reduction technology

The City of Wanneroo encourages the developers of washdown bays designed to dispose of treated wastewater to ground to incorporate nutrient reduction technology where the soils are incapable of retaining phosphorus (phosphorus retention index below 20). If phosphorus

free quick break detergents and degreasers are used the nutrient levels should be minimal and no further treatment for nutrients may be required. However most detergents and degreasers are high in phosphorus and this nutrient rich washwater can be damaging to the environment and contributes to the problem of algal blooms and eutrophication.

### **Further information**

Further information can be obtained from the following agencies;

City of Wanneroo Health Services:

9405 5000

[www.wanneroo.wa.gov.au](http://www.wanneroo.wa.gov.au)

Water Corporation:

13 13 95

[www.watercorporation.com.au](http://www.watercorporation.com.au)

Department of Water:

6364 7600

[www.water.wa.gov.au](http://www.water.wa.gov.au)

<https://www.watercorporation.com.au/home/business/trade-waste/trade-waste-in-your-business/vehicle-and-machinery-wash-down-areas>

### **Disclaimer**

This information sheet is provided as generalised information. Whilst we aim to keep the content of this document current and accurate, we accept no responsibility or warranties for actions based on the information provided. The City encourages you to seek professional advice before acting on any information contained within this document.