



# **ENVIROPOD OPERATING & MAINTANENCE MANUAL**

# INTRODUCTION

Stormwater pollution is the leading cause of environmental degradation in New Zealand. Urban existence produces contaminants, which are discharged on to impervious surfaces. When it rains, contaminants such as lead, copper, zinc and PCBs are washed from these impervious surfaces into the stormwater system and eventually discharged into harbours, streams, rivers and aquifers.

The following report outlines the management procedures for stormwater pollution for the above site. Stormwater pollution control has been obtained by the installation of Enviropod catchpit filters in the stormwater catchpits.

The Enviropod Catchpit filter system comprises a supporting framework and a replaceable filter bag that is routinely cleaned. Filter bags are removed and rejuvenated after each clean. Normal catchpit maintenance techniques are employed in maintaining the Enviropod Catchpit Filter System.

This plan will outline operation of the system, installation / removal of filters, maintenance requirements, and the frequency of maintenance and inspections required.

200 micron Podmesh filters were selected as the filter medium. This filter has a moderate/high removal rate and a moderate maintenance requirement.

## Operations and Maintenance Frequency

It is recommended that the 200-micron filter bags be serviced every three months.

NOTE: Frequency of maintenance services should be reviewed at completion of each service and modified if pollutant loading deems this necessary. At the three-month interval the contaminants need to be removed from the filter bags and disposed of appropriately. The following method of maintenance is to be used.

The system must be monitored and maintained in accordance with any relevant local authority guidance documents.

## **Cleaning using Inductor Truck**

Maintenance utilising a vacuum Inductor truck is the preferred option for cleaning Enviropod Filters. Hand maintenance is discouraged as it can lead to damage of the filters and has Health and Safety implications with sediments often being highly contaminated. Filters are also capable of storing a large weight of material.

## **Traffic Control**

Traffic control must be well planned when maintaining Enviropod Filters. All standard rules and regulations governing Traffic Control and Safety while working on the Road must be rigidly followed at all times. All potential hazards must be identified and control methods put in place prior to maintaining filters.

## **Health and Safety**

All contractors should comply with all current Health and Safety Legislation and take all practicable steps to:

- Comply with all applicable Laws, Regulations and Standards.
- Ensure that all Employees, Contractors and Visitors are informed of and understand their obligations in respect of current Health and Safety Legislation.
- Ensure that employees understand and accept their responsibility to practice and promote a safe and healthy work environment.

All relevant precautions must be taken to prevent contact with sediment and litter when maintaining filters. The following safety equipment should be worn:

- Puncture resistant gloves.
- Steel capped safety boots.
- Fluorescent safety vest.
- Safety apron (optional).
- Overalls or similar skin protection.
- Eye protection if necessary.

- Where there is a need to proceed in a confined space, the space shall be inspected for gas/fumes. Safety equipment must be worn where deemed necessary and where gas or oxygen hazard occurs. BA gear will only be used by staff trained in its use. Non trained staff must not go into confined spaces.

## **Cleaning**

It is recommended that a suction truck with a 150-mm diameter hose-pipe be used to maintain the pits. Hand maintenance is discouraged as it can lead to damage of the filters as well as health and safety implications as sediments are highly contaminated.

Sediment is to be extracted from the filter bag by the sucker truck. Sediment retained in the catchpit grate is to be removed. Back opening channels are to be cleared of any debris to ensure flow is not hindered. Care is to be taken by the operator not to damage the filter. All catchpit waste is to be removed from the pit, taken off site and disposed of at a transfer station or similar approved disposal site.

**Catchpit sediments under no circumstances are to be backwashed into the catchpit.**

Filter bags are to be removed from the Enviropod frame and replaced with rejuvenated filter bags. The metal ring is removed from the expired filter bag and installed in the next rejuvenated filter bag. The used filter bag must then be washed. Washing involves water blasting of the Filter bag from the outside in. The Bag needs to be open and all run off to flow into an approved treatment system

A visual examination of the Filter structure and filter media is to be carried out. Structure is to be visually checked for failure or movement and that filterboxes are sealing sufficiently. If any structural failure has occurred it is to be remedied, or reported to the filter owner for remedial works.

## **Removal and disposal of sediment**

Stormwater Sediments can contain Lead, Copper, Zinc, Mercury and PCBs, which are harmful to both humans and the receiving environment. The ARC advise that cesspit/catchpit tailings be regarded as Special Waste.

Waste is to be tested and disposed of at a disposal site approved for the toxicity of the sediment. Acceptable disposal sites in the Auckland region are Greenmount, Redvale and Whitford landfills. In all other areas, check with the relevant local authority.

## **Emergency Procedures**

### **Spill Procedures**

In the advent of a spill discharging into any catchpit all sediment is to be removed from catchpit and filters are to be removed and replaced with rejuvenated filter bag immediately. Normal operation procedures apply to additional cleaning as a result of spills.

### **Blockages**

In the unlikely event of surface flooding around a catchpit fitted with an Enviropod the following steps should be carried out:

Check Enviropod over flow bypass. The Enviropod filter has been designed with an overflow mechanism built into the filterbox. If surface flooding existing check the overflow slots underneath the rubber seal. If debris is lodged in the overflow slots these can be easily cleared by hand or steel rod.

If overflow is clear and surface flooding still exists, remove Enviropod and check outlet pipe for blockages.

Removal of the Enviropod may be difficult if the filter is clogged and the Enviropod is holding water. If the filter is clogged, brush the source of the filter with a yard broom or similar. This will dislodge particles trapped at the interface allowing contained water to flow through the filter.

If the outlet pipe is blocked, it is likely that a gully sucker truck will be required to unblock it. Debris should be removed from the Enviropod with the gully sucker truck before removal of the Enviropod filter.

If a gully sucker truck is not available and the Enviropod needs to be removed by hand, follow the steps below;

- Remove excess debris by hand or brush the side of the filter.
- Lift and place filter ring through the filter box and into cage.
- Remove Filter box.
- Lift cage containing filter bag and ring out of the pit.
- Unblock outlet pipe.

## **Filter cleaning**

Filters are to be rejuvenated by an approved contractor. Contact Hynds Environmental for the names of authorised service contractors.

## **Audit Procedures**

The maintenance contractor is to provide documentation that all maintenance requirements are being carried out. Attached is an example of documentation to be provided by the cleaning contractor.

Records of maintenance operations for the property are to be kept on site and are to be available for Regional Council compliance inspections.

# ***Enviropod Service Receipt***

**Site:**

**Contractor:**

**Location:**

**Job Number:**

**Receipt Number:**

**Week Serviced:**

**Year:**

Service Frequency:

Enviropod/s on Site:

Enviropod/s Cleaned:

Bags Checked:

Frames and Seals Checked:

Tonnage:

**Comments**

This service has been performed in accordance with Enviropod Management Plan (EMP) for above site. Please file this receipt with EMP and keep on site for Regional Council compliance inspections.

Signature:

Position: