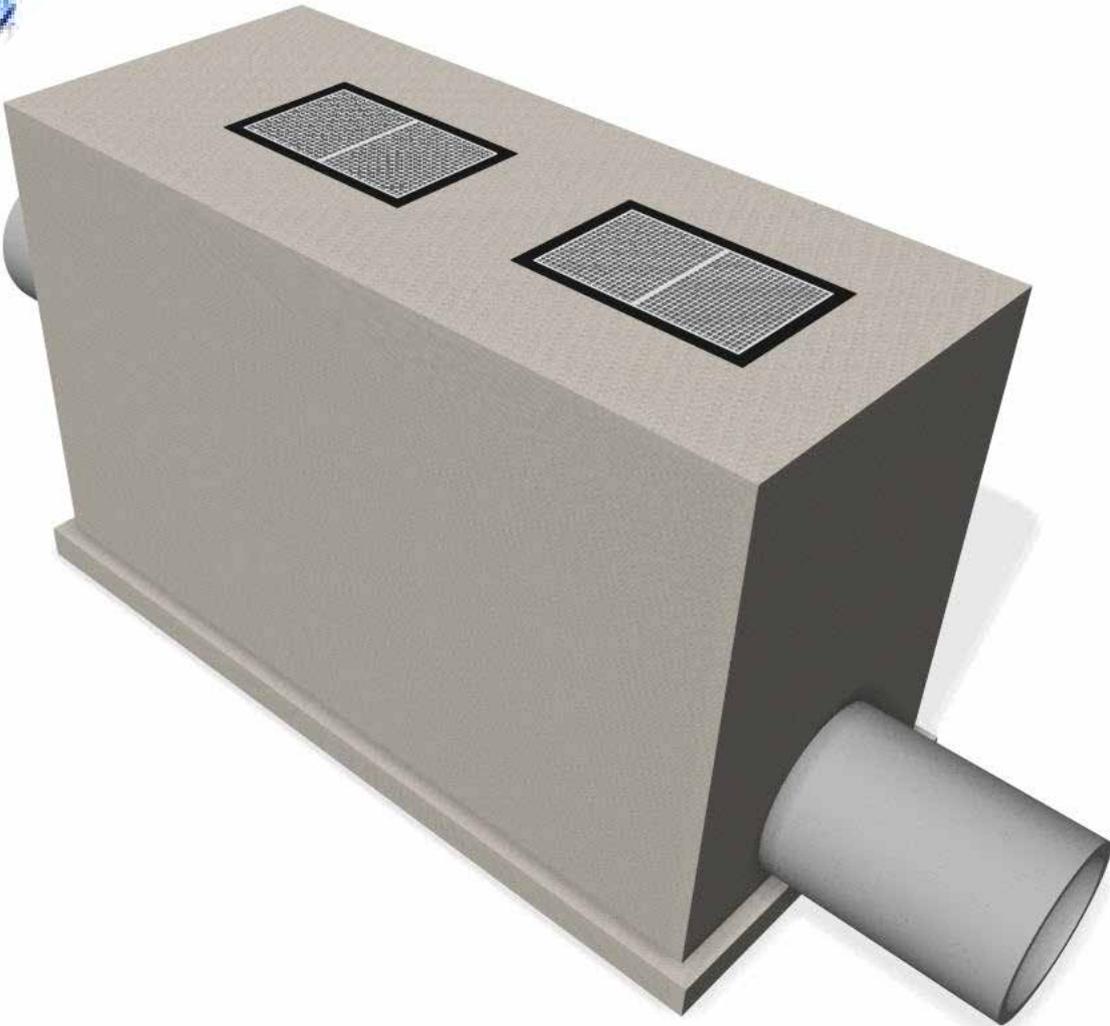


Ecosol™ Silt Arrestor Maintenance Guide

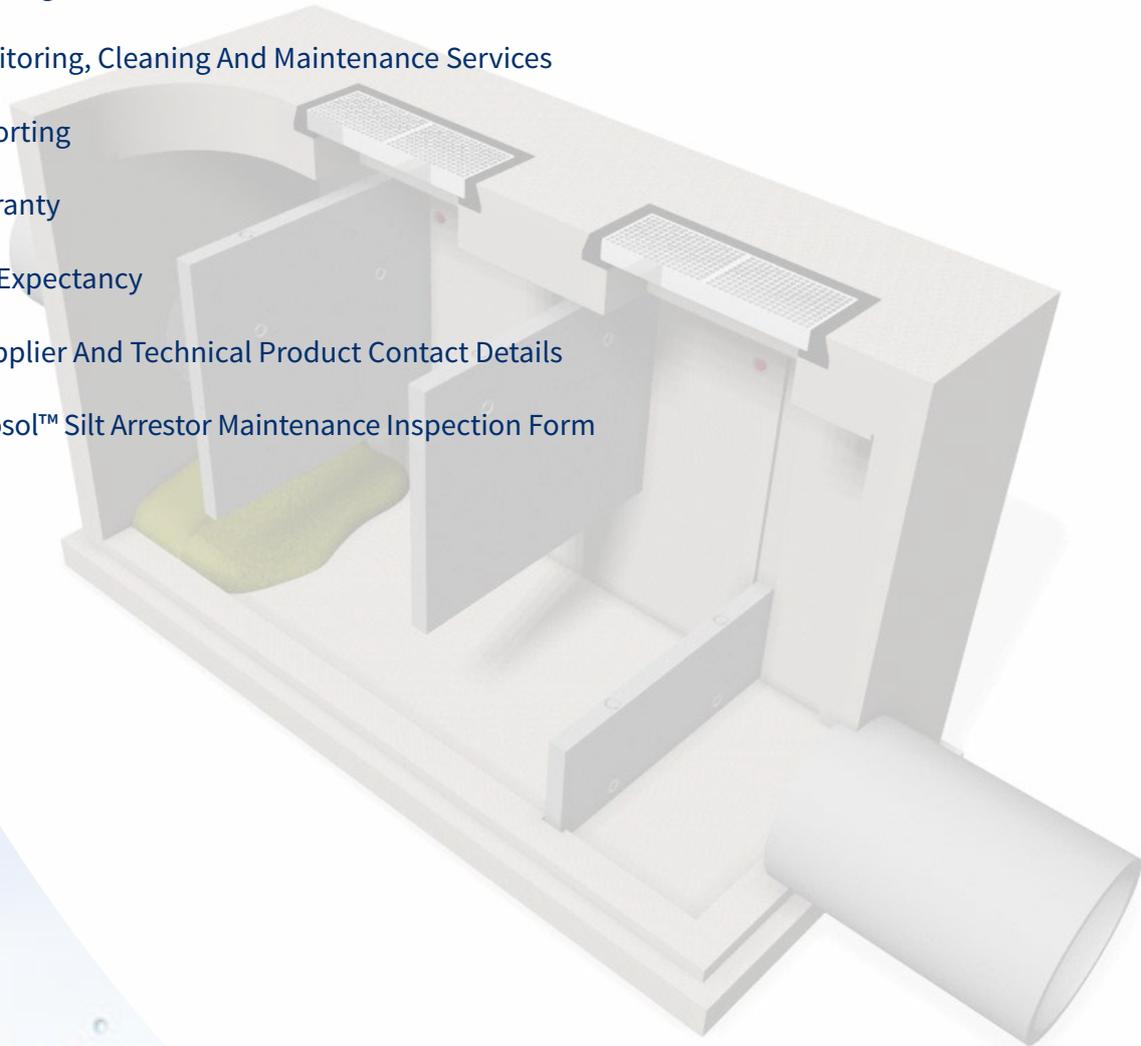


environmentally engineered
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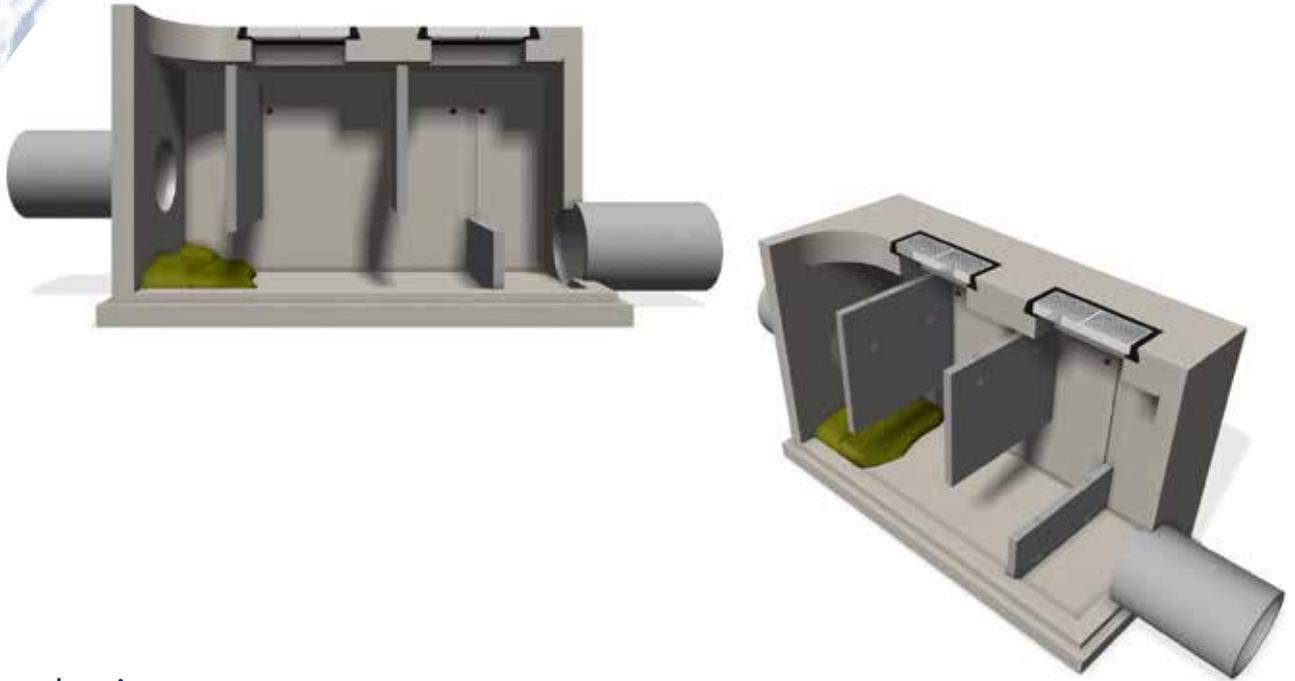


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The Ecosol™ Silt Arrestor has been designed specifically for easy, safe on-site cleaning and maintenance using a licensed waste contractor equipped with a vacuum truck.



1.0 Introduction

The of Ecosol™ Silt Arrestors provide a purpose designed and built storage pit where water that is contaminated with suspended sediment is conveyed as runoff to the unit and then released at predetermined flow rates. The Ecosol™ Silt Arrestor by design enables suspended particulate matter conveyed to the unit in flows to settle to the bottom of the pit where it is retained until the unit is cleaned.

2.0 Key Dimensions

The Ecosol™ Silt Arrestors is able to be custom designed to suit most stormwater systems. The below table provides a general guide on typical unit configurations and typical pollutant holding capacities.

Ecosol Silt Arrestor Product Code	Inlet Pipe Diameters	Total Water Holding Capacity	Total Free Floating Hydrocarbon Holding Capacity	Total Settled Sediment Holding Capacity
	(mm)	Litres	Litres	(m ³)
1,600L	100 - 150	1,600	540	1.4
4,000L	150 - 225	4,000	1,700	1.8
8,000L	225 - 450	8,000	6,200	3.0
13,500L	450 - 600	13,500	8,000	4.5

3.0 Catchment Size And Recommended Cleaning Frequency

The Ecosol™ Silt Arrestors should be cleaned regularly. The cleaning frequency and the cost depend heavily on the surrounding environment, the unit's proximity to a waste facility, the number of rain events, catchment type and size. The figures in the table below give a broad guideline about the optimal catchment size and the number of cleans required annually based on typical expected pollutant loads.

Ecosol Silt Arrestor Product Code	Indicative Maximum Gross Pollutants Holding Capacities	Optimal Catchment Area	Recommended Cleaning Frequency
	m ³	Ha	Per Annum
1,600L	1,400	2.5	1
4,000L	1,800	3.2	1
8,000L	3,000	5.4	1
13,500L	4,500	6.0	1

Cleaning frequencies indicated are based on typical sediment loads of 0.380m³/ha/year for fully developed commercial and light industrial catchments.

4.0 Monitoring

Under normal weather and operating conditions, your Ecosol™ Silt Arrestors requires cleaning approximately every 12 months. However, it is important to monitor regularly the amount of material retained in the unit. The inspection form at the back of this document can be used to record the approximate quantity of captured material together with other information about the unit's condition and the need for scheduling cleans and maintenance work.



Initially, Urban Asset Solutions Pty Ltd recommends that monitoring is undertaken monthly. Once the unit has been in operation for an extended period of time (say, 12 months) the monitoring schedule can be adjusted to reflect the actual operating conditions specific to the catchment. It is also recommended that the unit is inspected after every major storm event.

5.0 Cleaning And Maintenance Procedures

Prior to cleaning day

It is important that, prior to commencing a clean, you confirm all plant and equipment is available and operational with service records and pre-start checklists available. It is also recommended that weather conditions for the day of the proposed clean be confirmed as the clean can only be completed in dry weather conditions. Ensure that you:

- Advise all concerned parties of the proposed date and time that the clean is to take place
- Load all equipment
- Obtain approvals from the appropriate authorities
- Complete a safe work method statement for the work to be undertaken

Site establishment

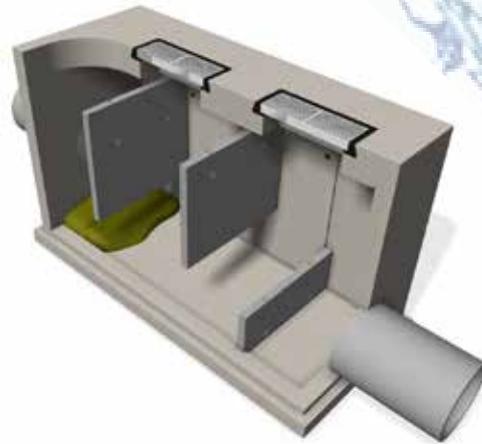
- Complete and sign off all relevant Safe Work Method Statements
- Ensure that all access points are exposed and accessible
- Ensure barricades are provided at all working areas and that signs are in place to prevent injuries to public or staff
- Ensure all working areas are safe and all equipment, including hoses and machinery, are in place and ready for operation



5.0 Cleaning And Maintenance Procedures Continued

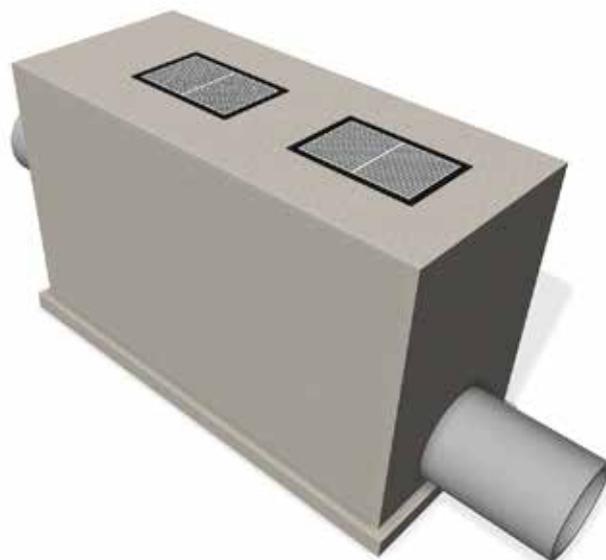
Removal of Pollutants

- Open surface access lids
- Lower the eductor truck vacuum hose into the central chamber and position over retained debris
- Commence removal of captured materials, including by moving the vacuum hose over the material
- Once all visible debris has been removed stop the vacuum truck and raise the vacuum hose
- Repeat the above procedure until all chambers are clean



Site demobilisation

- Complete the cleaning report accordingly
- Using long handle access cover lifters, lift all access covers back into position
- Using an 8mm Allen key reinstall all access cover lock down bolts
- Reinstall all bolt protective caps
- Note it is recommended that all access covers, frames and bolts should be greased at least once per annum
- The vacuum/eductor truck must be packed up and leave site to dispose of all captured pollutants at an approved waste facility
- The transporter to be used for the transportation of the stormwater silt must be licensed with the EPA
- Load all other plant equipment and tools ensuring the site is restored to its original condition



6.0 Monitoring, Cleaning And Maintenance Services

Urban Asset Solutions Pty Ltd has a very competitive cleaning service. After each clean we provide a report detailing the volume and type of pollutants removed. We believe that it is in your best interests for Urban Asset Solutions Pty Ltd staff to clean and maintain the unit, not only because we are specialists, but also because proper monitoring and maintenance enhances the unit life significantly.

Should you use another company to clean the unit, or undertake this work yourself, we request that it be conducted according to Urban Asset Solutions Pty Ltd maintenance guidelines. Otherwise, you may invalidate your warranty, as damage caused by inappropriate cleaning procedures is not covered. The advantages of using Urban Asset Solutions Pty Ltd to clean and maintain your unit includes:

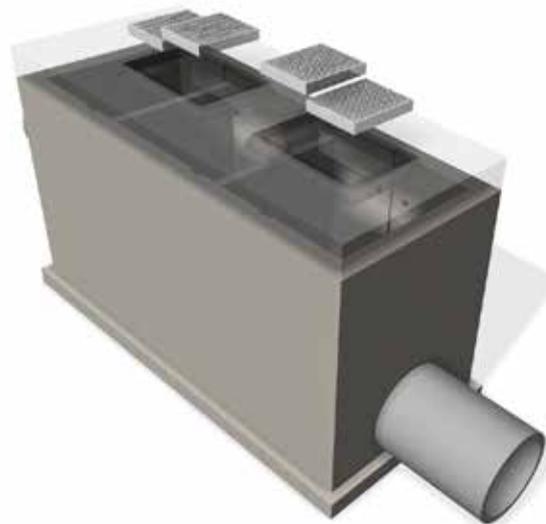
- regular inspections of your unit
- a comprehensive cleaning service with removal and disposal of all captured pollutants;
- a detailed report provided on completion of each clean
- trained and experienced staff and
- remedial work completed promptly, if required



7.0 Reporting

After each clean it is important that all cleaning data is recorded for use in ongoing asset management activities. A cleaning report should be prepared that confirms as a minimum the following information:

- Site location
- Date and time of the clean
- Duration of the clean
- Volume or weight of material removed
- Composition of the captured material e.g. sediment, vegetation, litter
- Details of any remedial work undertaken or required at a later stage



8.0 Warranty

All Ecosol™ Silt Arrestors are covered by a twelve-month warranty provided the unit is maintained and cleaned with the frequency, and using the method, recommended in this guide.

9.0 Life Expectancy

All Ecosol™ Silt Arrestors is designed to meet strict engineering guidelines and manufacturers guarantees. The pre-cast concrete pit has a life expectancy of 50 years, providing appropriate maintenance practices are employed

10.0 Supplier And Technical Product Contact Details

For any maintenance or technical product enquiries please contact:

Urban Asset Solutions Pty Ltd

Tel: 1300 706 624

Fax: 1300 706 634

Email: info@urbanassetsolutions.com.au

11.0 Ecosol™ Silt Arrestor Maintenance Inspection Form

Asset Owner:

Asset ID:

Unit Location :

Ecosol Ref:

Date:

Time:

Product Code: Ecosol™ Silt Arrestor Trap

Inspected By:

Visual Inspection

Item

Good

Fair

Damaged

Remarks

Condition of Internal Baffles

Sump % of fill

Condition of Sump pit

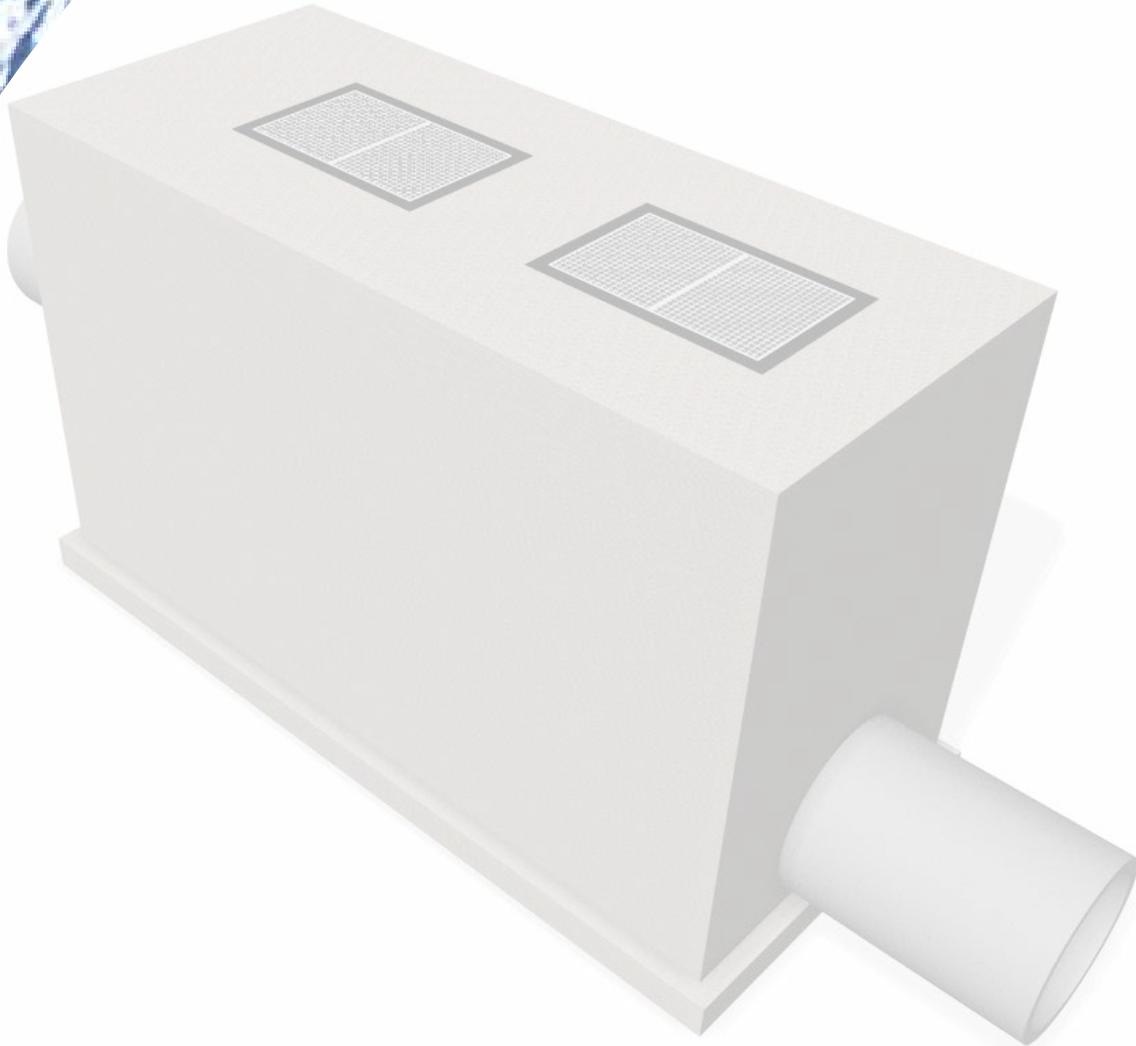
Surrounding surfaces (Hardstands)

Condition of Access Covers

Comments :

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