



Achieving better practice stormwater treatment asset maintenance

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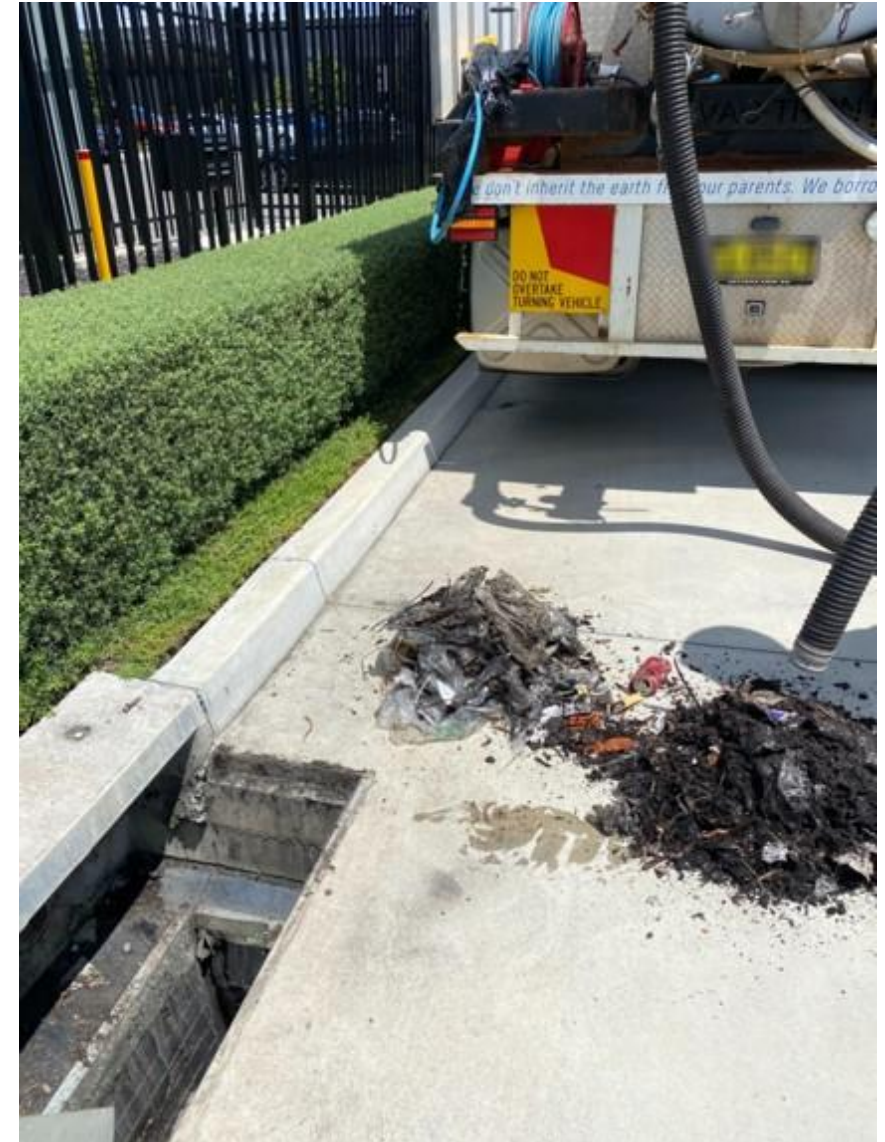
- 🌀 Current situation
- 🌀 Impacts
- 🌀 Why ?
- 🌀 Recommendations
- 🌀 Advice for reviewing Maintenance Agreements



- ❶ Vast majority of SW assets are receiving no maintenance
- ❷ Assets are in poor condition – a direct result of the lack of maintenance
- ❸ Majority of assets failing to comply with given targets for stormwater management





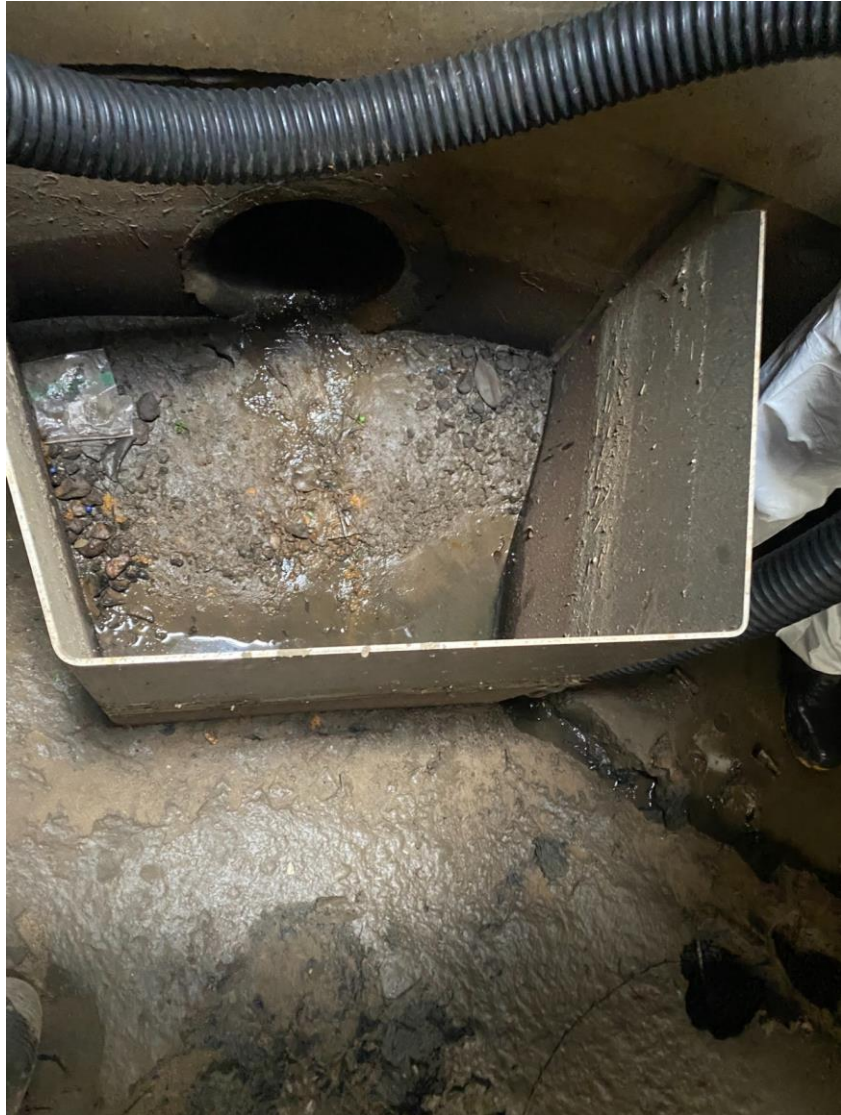




- 🌀 Assets will not function
- 🌀 Increased flooding potential
- 🌀 Costly rectification









- ④ Minimal enforcement of maintenance
- ④ Focus on achieving design objectives
- ④ Lack of resources for regulatory authorities ?

- Recognise that this is a key issue in stormwater industry (& for protecting waterway & marine health)
- Educate stakeholders on legislative requirements
- Incentivise maintenance of STAs
- Enforce maintenance of STAs





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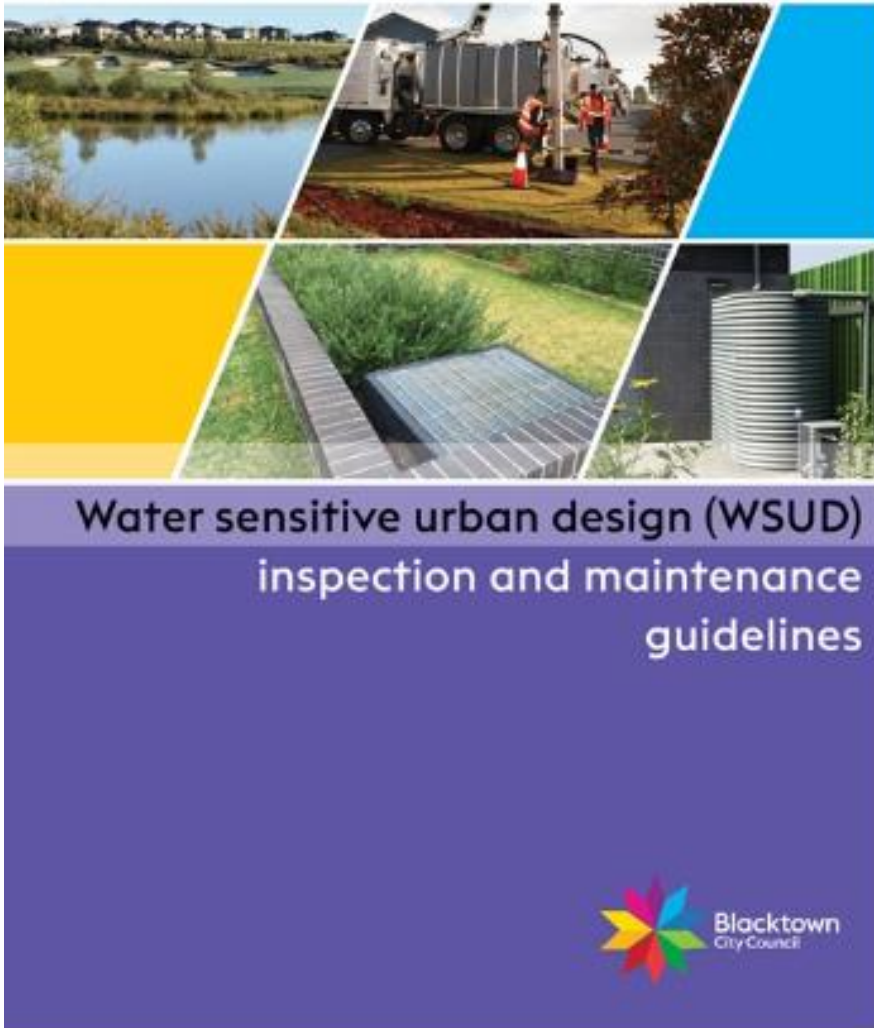


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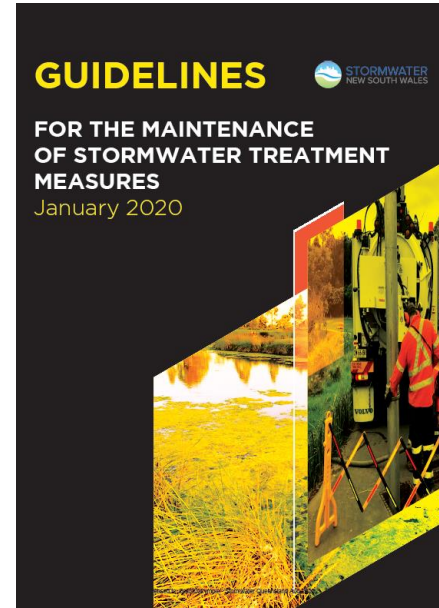


Positive covenant - example

1. The registered proprietor(s) covenant as follows with the Authority benefited in respect to the Stormwater Quality Improvement Device (hereinafter referred to as "the device") constructed and installed on the burdened lot(s), that they will:
 - a. Keep the device clean and free from silt, rubbish and debris
 - b. Maintain and repair the device at the sole expense of the registered proprietor(s), so that it functions in a safe and efficient manner, in accordance with the manufacturer's recommended requirements and the "Maintenance Schedule for the Stormwater Treatment System" prepared by [REDACTED]. A copy of this schedule is available to all owners and occupiers of the burdened lot(s).
 - c. For the purpose of ensuring observance of this covenant, permit Blacktown City Council or its authorised agents (hereinafter referred to as "the Council") from time to time and upon giving reasonable notice (but at any time and without notice in the case of an emergency) to enter the land and inspect the condition of the device and the state of construction, maintenance or repair of the device, for compliance with the requirements of this covenant.
 - d. Notify Council after each programmed maintenance inspection.

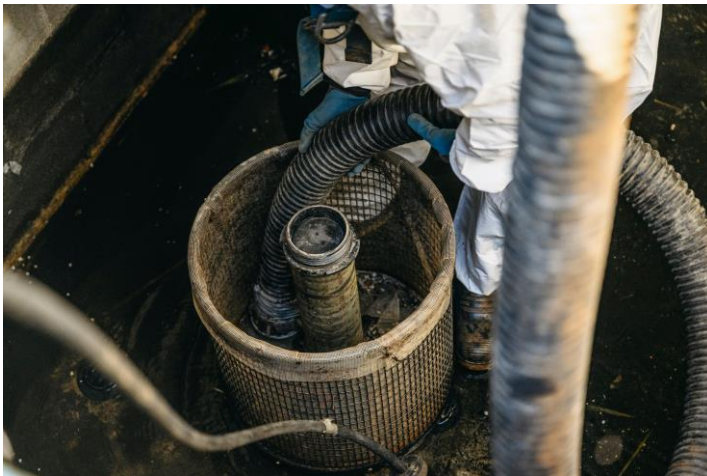


Some Councils have had great success with preserving economic value & protecting local waterways



- Inclusions & Exclusions
- Asset condition at completion of contract
- Frequency and type of servicing

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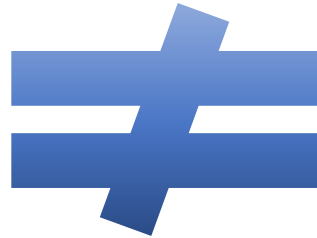
Reviewing maintenance contracts for stormwater treatment assets

Key considerations for reviewing maintenance contracts for stormwater treatment assets include the following:

- **Exclusions:** Ocean Protect have no hidden costs and contracts are 'all inclusive', based on over 15 years' experience of the design, installation and management of over 50,000 stormwater treatment assets across Australia. In particular, cost items commonly excluded from maintenance contracts by other service providers are: (i) use of vacuum truck (or other appropriate machinery) by suitably qualified personnel; (ii) cartridge replacement; (iii) waste management and disposal/ 'tipping'; and (iv) traffic and pedestrian control. Ocean Protect maintenance contracts include these costs up to a given limit, based on the anticipated waste volumes to be captured by the asset(s) – with a specified rate for additional volumes.
- **Asset condition at completion of contract:** As specified in Ocean Protect maintenance contracts, stormwater treatment asset(s) should be as 'good as new' – i.e. in a condition equivalent to a recently installed asset(s).
- **Frequency of inspections, minor servicing and major servicing:** Inspections and minor services are generally undertaken to assess the condition of the asset (and associated components) and record necessary information that will establish whether a major service is required. The frequency of these activities is dependent on a number of factors, but is particularly dependent on (i) the pollutant load characteristics of the site and (ii) the ability of the asset to remove and retain/ store stormwater pollution. The table below provides a summary of recommended maintenance activities and frequencies for Ocean Protect assets. It is simply not possible that other similar stormwater treatment assets (with a similar size/ storage capacity and claimed performance) could be maintained less frequently and still function as intended. Proof (e.g. reporting with photos) of these activities should be provided to the client shortly after being undertaken.

Recommended maintenance activities & frequencies for Ocean Protect Assets

Asset type	Maintenance activity	Description of typical activities	Frequency (approx.)
OceanGuard	Minor service	<ul style="list-style-type: none"> Filter bag inspection and evaluation Removal of capture pollutants Disposal of material 	2-4 times per year
	Major service	<ul style="list-style-type: none"> Filter bag replacement Support frame rectification 	As required
StormFilter	Inspection	<ul style="list-style-type: none"> Visual inspection & evaluation of StormFilter cartridges & chamber Removal of larger gross pollutants 	Every 6 months
	Minor service	<ul style="list-style-type: none"> Evaluation of StormFilter cartridge components & media Removal of accumulated sediment from StormFilter chamber (if required) 	Every 12 months
	Major service	<ul style="list-style-type: none"> Removal of old cartridges from chamber Removal & disposal of exhausted media from old cartridges Freight of old cartridges from site Supply & Installation of replenished cartridges (with appropriate media from Ocean Protect) into chamber 	Every 2 years
Jellyfish	Minor service	<ul style="list-style-type: none"> Removal of floatables contained by Maintenance Access Wall Removal & rinsing of Jellyfish cartridges Evaluation of Jellyfish cartridges Removal of accumulated sediment (if required) Wash down of deck level (if required) 	Every 6 months
	Major service	<ul style="list-style-type: none"> Removal & disposal of old cartridges from chamber Supply & installation of replacement cartridges into chamber 	Every 2 years





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THANK YOU

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