

EnviroModule™ 2

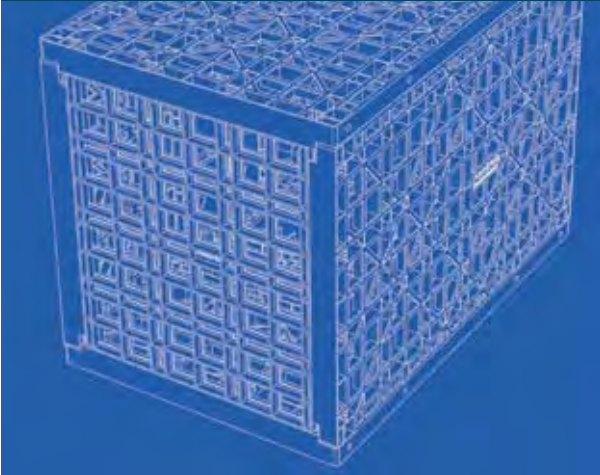
modular underground tank systems



rainwater harvesting
infiltration
on-site detention
bio-remediation
filtration

our mission

AUSDRAIN™ recognises that water is one of our most precious natural resources, an asset to be conserved and re-used wherever possible.

EnviroModule™ 2	features	benefits
	<ul style="list-style-type: none"> • Sub-surface • Modular • High compressive strength • High durability • High void storage • Open structure • Lightweight • Low maintenance • Connectors • Flat-pack form • Slide and lock assembly • 100% recycled 	<ul style="list-style-type: none"> • More useable land area • Design flexibility • Trafficable • Long life expectancy • Cost-effective • High flow rate • Install by hand • No cleaning required • Makes installation easy • Economical to transport • Quick to assemble • Environmentally friendly

Our water resources are limited and at present the world's consumption of this resource far exceeds its natural replenishment. Too much of our stormwater is wasted, escaping via stormwater channels out to sea.

Systems for stormwater infiltration, rainwater harvesting and bio-remediation contribute towards better management of this precious resource.

AUSDRAIN™ products have been designed and developed to fit with the principles and best management practices for Water Sensitive Urban Design. Conservation and re-use of stormwater is making an important contribution to the challenges facing mankind over the coming decades.

AUSDRAIN™ has made a commitment towards improving the methods of stormwater conservation to assist in creating a more sustainable future for us all.

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EnviroModule™ 2

product specifications

technical data

Length:	600mm
Width:	400mm
Height:	450mm
Weight:	4 - 5 kg
Void area:	95%
Storage volume:	105 litres
Unrestricted flow rate:	3510 litres/min

Compressive strength

Standard duty module - 3 braces:	27.5 tonnes/m ²
Extra duty module - 4 braces:	37.5 tonnes/m ²

Minimum cover recommended

Standard duty module:	400mm
Extra duty module:	400mm

Maximum cover recommended

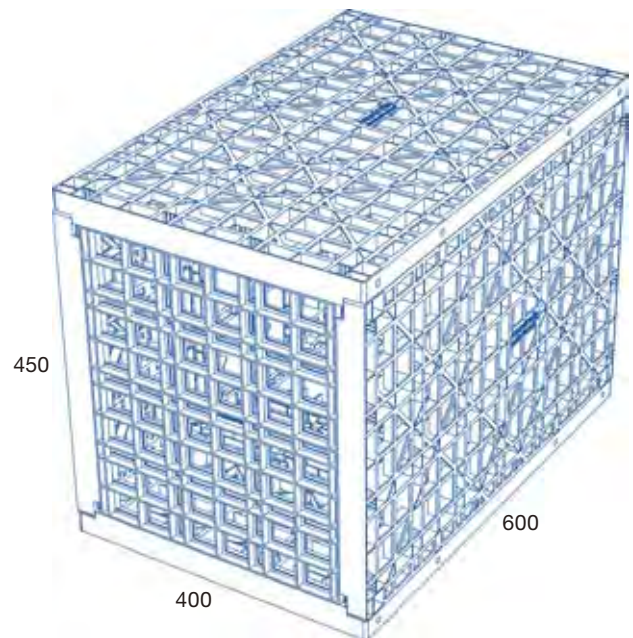
Standard duty module:	1200mm
Extra duty module:	1800mm

Overall maximum depth

Standard duty module:	2400mm
Extra duty module:	3000mm

Maximum height of modules

Standard duty module - 4 high:	1800mm
Extra duty module - 5 high:	2250mm
Service temperature:	-30°C + 120°C
Module material:	Recycled polypropylene



EnviroModule 2

important design information

1. EnviroModules must be installed with the 450mm side as the height to ensure maximum strength.
2. Standard duty modules are suitable for landscaped areas only.
3. Extra duty modules are required for trafficable areas such as driveways and car parks and where greater depth of cover is needed. A suitable pavement designed by a certified engineer is required over the surface of the tank.
4. Compressive strength tests were conducted by a certified testing authority and represent the maximum strength in a controlled environment that replicates the case when soil is uniformly distributed under a short term static load.
5. Safety factors should be employed to the compressive strength results. This is to allow for actual site conditions, possible variations in recycled material and any potential creep factors.



Pipe connector



Connector pin

rainwater harvesting residential

A practical and cost-effective solution for underground water storage requirements. Water can then be effectively reticulated for non-potable household purposes and garden irrigation.



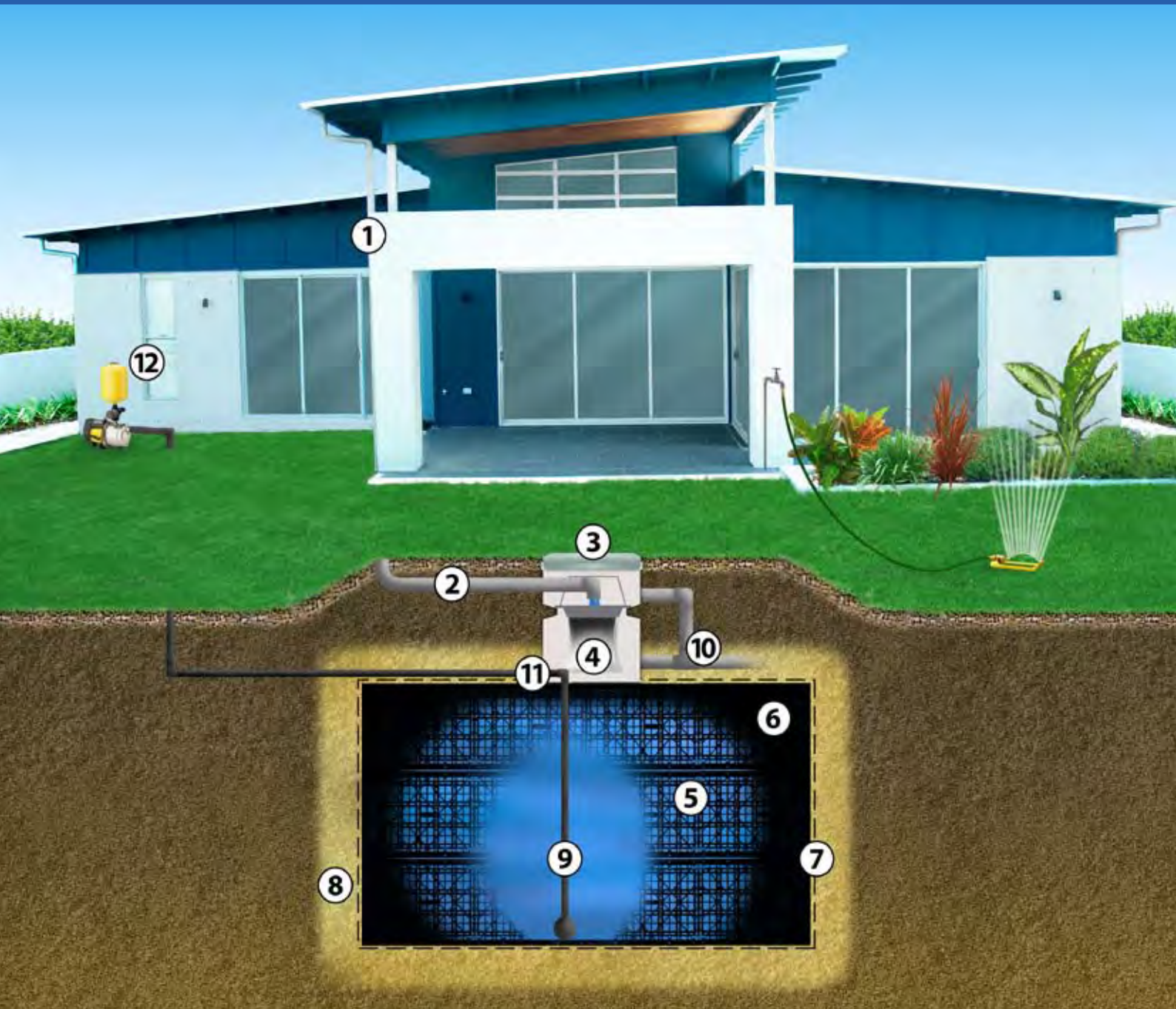
The AUSDRAIN EnviroModule Rainwater Harvesting Tank offers a cost-effective and flexible alternative when installing an underground rainwater tank. Our tanks are extremely robust and can be installed in landscaped areas or under driveways, thus optimizing valuable land area for the home owner and avoiding the visual impact created by above ground water storage devices.

AUSDRAIN EnviroModule Rainwater Harvesting Tanks are supplied as a complete package including EnviroModules, an EnviroSump filtration unit, a factory welded waterproof liner to suit tank dimensions and geotextile protection fabric. The tank is delivered in flat-pack form minimizing transportation costs.

AUSDRAIN tanks can be supplied according to the required dimensions and capacity that best suits the available land space. Each tank connects to an above ground pump via a suction line inside the tank. The reticulation of stored water for household purposes such as toilets, laundry and irrigation can provide potential water saving benefits of up to 40%.

The AUSDRAIN EnviroModule Rainwater Harvesting Tank has been specifically designed to be quickly and easily installed by any licensed plumber or contractor. AUSDRAIN EnviroModules are manufactured from 100% recycled plastic so choosing to install an AUSDRAIN tank is not only reducing the demand on our water supply but also the demand on our natural resources.

EnviroModule™ rainwater harvesting tank



- | | | |
|---------------|------------------------|----------------------|
| 1 Downpipe | 5 EnviroModules | 9 Suction line |
| 2 Inlet pipe | 6 Welded tank liner | 10 Overflow pipe |
| 3 EnviroSump | 7 Protection fabric | 11 Tank outlet |
| 4 Dual filter | 8 Coarse sand backfill | 12 Above ground pump |

system components

- EnviroModules – 9.6 modules per 1000 litres
- Connector pins (optional)
- EnviroSump filtration unit
- Factory welded tank liner
- Geotextile fabric

rainwater harvesting commercial

The high compressive strength and durability of AUSDRAIN EnviroModules makes them suitable for installation under driveway and carpark areas, thus making the most of valuable and often limited land area.



The AUSDRAIN EnviroModule Rainwater Harvesting Tank provides a cost-effective and flexible solution to underground water storage requirements. The modular flexibility of the system offers enormous scope to maximize the amount of water storage and design a tank that best suits each individual project.

AUSDRAIN tanks can be installed in landscaped areas and under trafficable areas such as a driveway or carpark where external space is limited. When installed in a trafficable area, a pavement consisting of stabilised road base and asphalt or a reinforced concrete slab is required over the surface of the tank according to engineer's specification.

The AUSDRAIN tank is recommended for car and light commercial vehicle traffic. The tank can be designed for heavy vehicle traffic in certain situations. This will require consultation with Ausdrain and approval by a certified engineer.

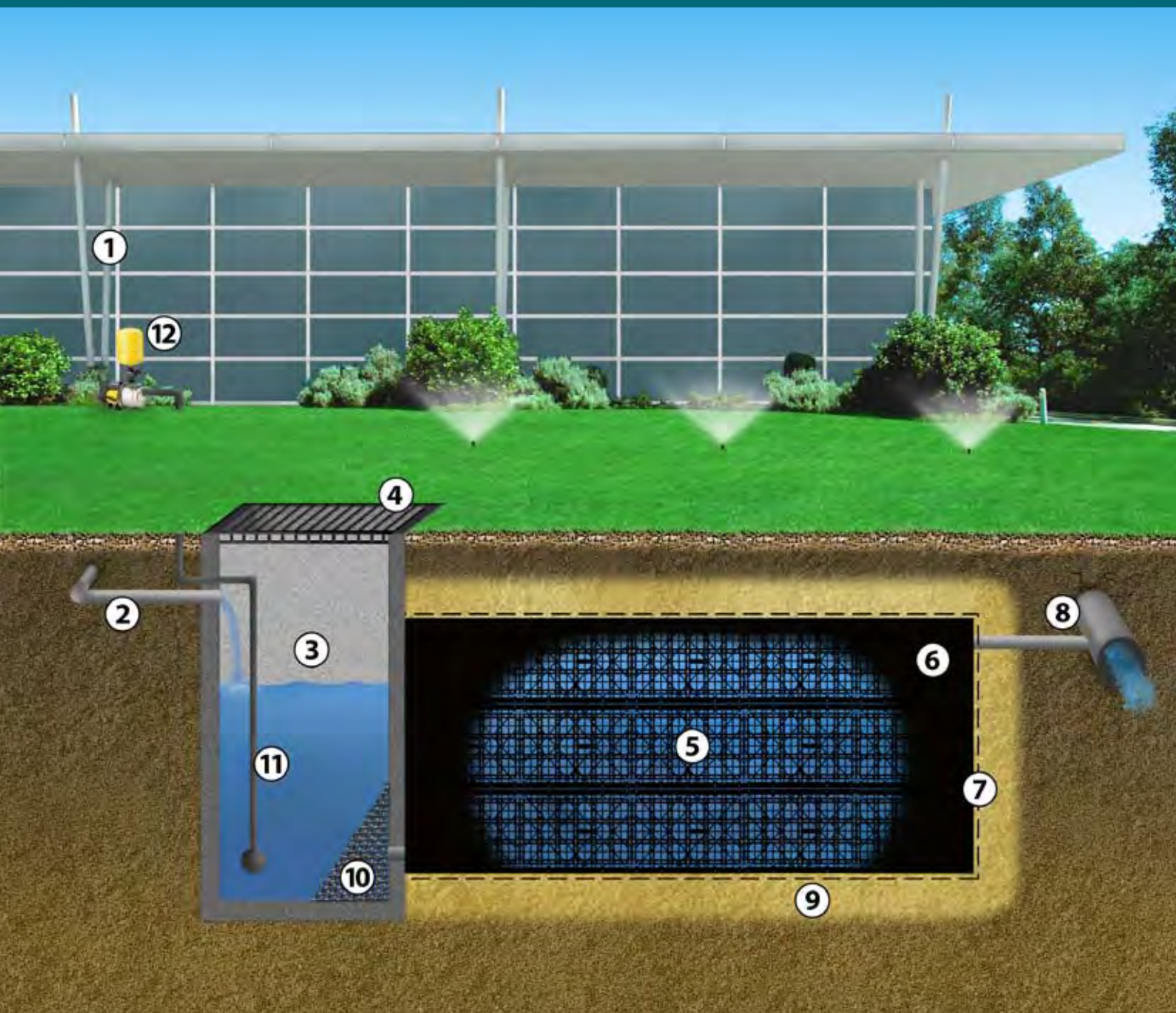
The AUSDRAIN EnviroModule tank is surrounded in a durable, high tensile strength factory welded waterproof liner. The liner is supplied as a base and cap and is made to order according to specific tank dimensions. The cap overlaps the base and does not require joining or sealing on site ensuring that each tank is completely watertight.

Inlets and outlets connect to a pre-cast pit that sits within the liner of the tank. This pit acts as a maintenance and inspection chamber for the tank and houses either a suction line connected to an above ground pump or a submersible pump.

It is essential that water entering the tank is pre-filtered to avoid long term and costly maintenance of the tank. Either an AUSDRAIN EnviroSump(s) or a suitable Gross Pollutant Trap (GPT) should be installed to prevent sediment and gross pollutants from reaching the tank. In the event that the tank surcharges, excess water is discharged through an overflow pipe to a designated stormwater outlet.

EnviroModule™

rainwater harvesting tank



- | | | |
|-------------------------|---------------------|------------------------|
| 1 Downpipe | 5 EnviroModules | 9 Coarse sand backfill |
| 2 Inlet pipe | 6 Welded tank liner | 10 Maximesh screen |
| 3 Discharge control pit | 7 Protection fabric | 11 Suction line |
| 4 Lockable lid/grate | 8 Overflow pipe | 12 Above ground pump |

system components

- EnviroModules – 9.6 modules per 1000 litres
- Connector pins (optional)
- 150mm pipe connector (optional)
- EnviroSump filtration unit or GPT
- Factory welded tank liner - made to size
- Protection fabric

infiltration

Compared to conventional gravel systems, the AUSDRAIN EnviroModule Infiltration Tank offers 95% void storage that reduces tank sizing by up to two thirds saving on excavation and spoil removal costs.



The continued development of our cities and greenfields has resulted in the requirement to provide on-site water management systems. This enables the replenishment of underground aquifers and prevents stormwater discharge that may result in downstream flooding.

The AUSDRAIN EnviroModule Infiltration Tank has proven to be one of the most efficient and cost-effective solutions to the environmental issues of stormwater management that have resulted in local authority requirements for on-site infiltration and retention.

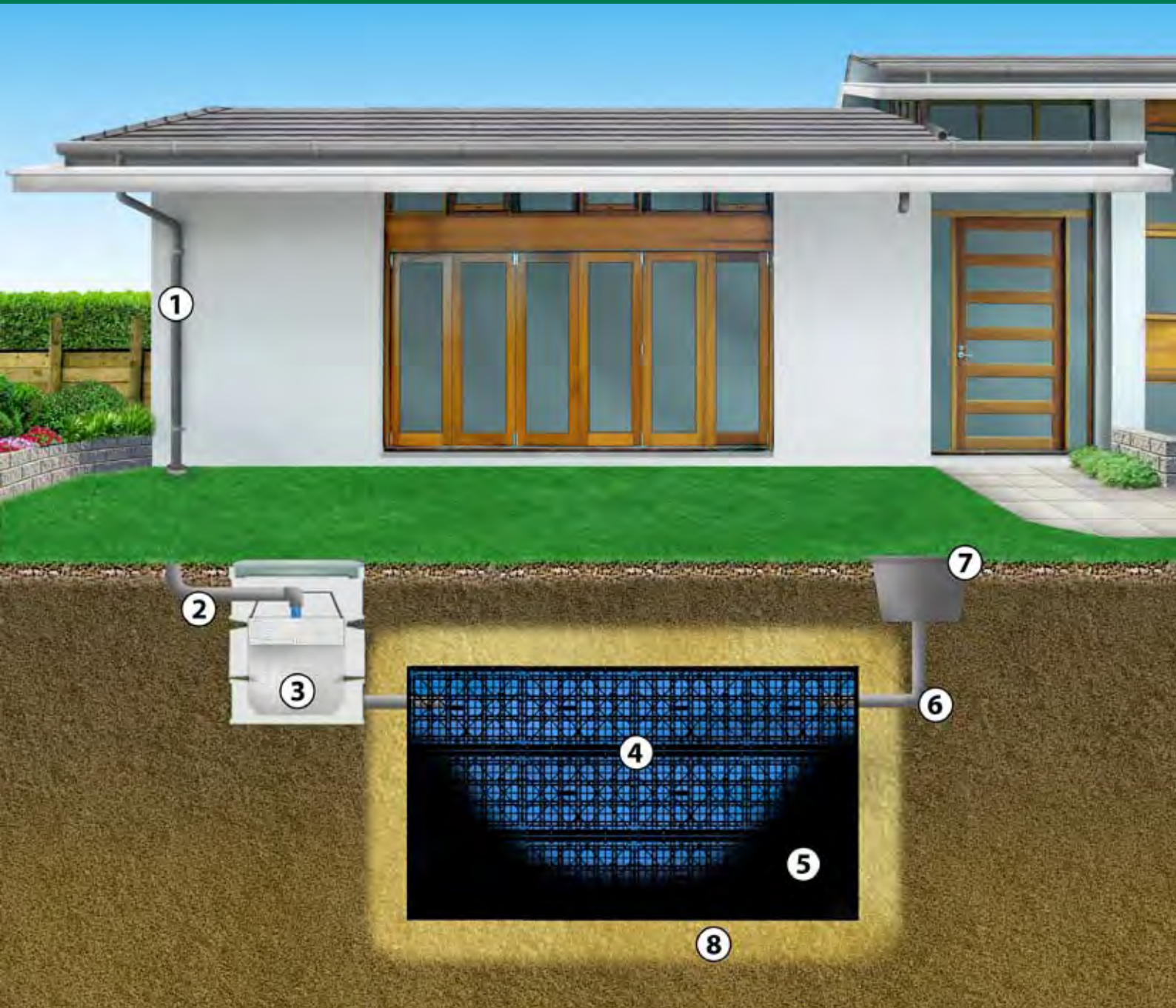
The EnviroModule Tank is constructed from high strength EnviroModules that have been engineered to allow stormwater to be captured and efficiently discharged inside a structural void surrounded in

geotextile fabric. Water entering the tank is stored temporarily and naturally dissipates back into the surrounding ground at a rate depending on soil type.

The AUSDRAIN EnviroModule tank can be installed in a variety of soil types due to the remarkable infiltration rates proven to be up to six times greater than gravel filled systems. The high compressive strength of the modules enables tank installations under trafficable areas such as carparks and driveways.

Pre-filtering of stormwater is essential for a well designed system. Combined with the AUSDRAIN EnviroSump or a suitable Gross Pollutant Trap (GPT), this system provides a complete stormwater management solution.

EnviroModule™ infiltration tank



- | | |
|---------------------|----------------------------|
| 1 Downpipe | 5 Geotextile fabric |
| 2 Inlet pipe | 6 Discharge pipe |
| 3 EnviroSump or GPT | 7 Overflow pit |
| 4 EnviroModules | 8 Coarse washed river sand |

system components

- EnviroModules – 9.25 modules/cubic metre
- EnviroSump filtration unit
- Connector pins (optional)
- 150mm pipe connector (optional)
- Geotextile fabric

on-site detention

Manufactured from 100% recycled plastic, the **AUSDRAIN Detention Tank** can be installed in a fraction of the time required to construct a concrete tank.



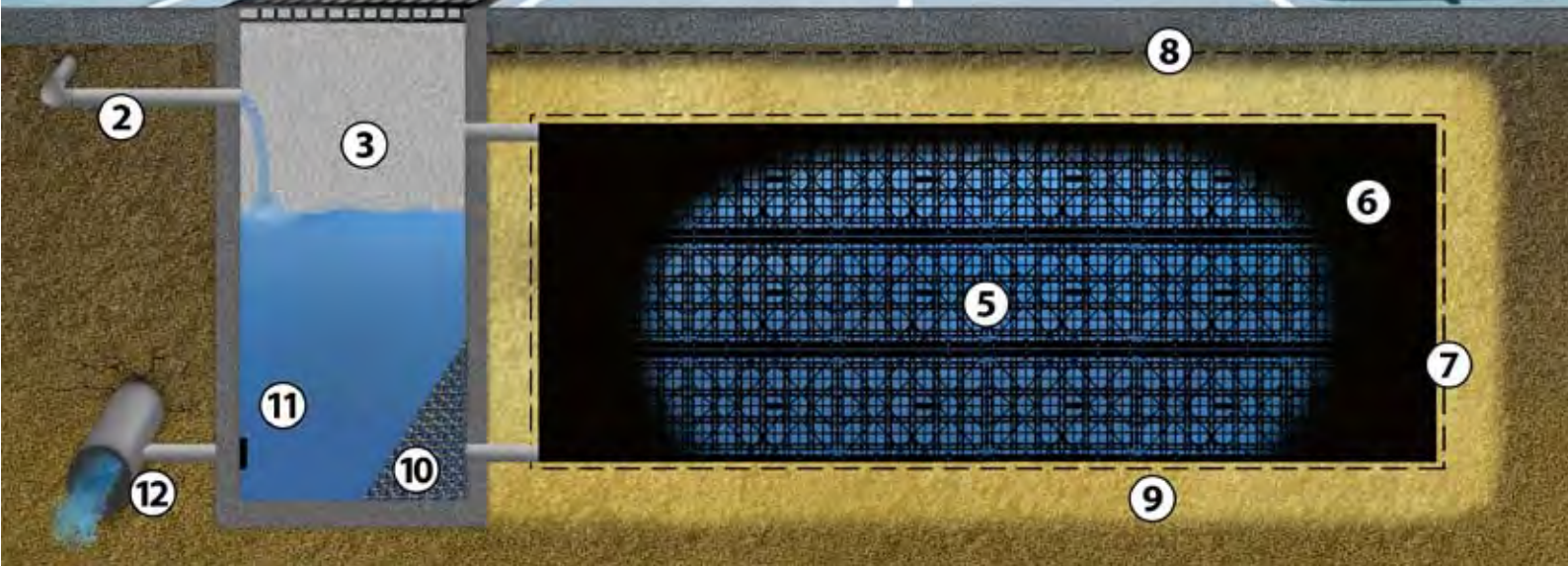
AUSDRAIN EnviroModule Detention Tanks are easily installed on any project saving valuable time and money. Compared to a concrete tank there are no footings, slabs, blockwork or reinforcement required. Each tank is sealed with a strong and durable waterproof liner.

AUSDRAIN EnviroModules create the required void storage allowing stormwater to be temporarily stored inside the tank before discharging to a designated outlet. AUSDRAIN EnviroModules are available in standard duty suitable for installation under landscaped

areas or extra duty for trafficable situations. The modular nature of the tank allows greater scope for design flexibility and tank sizing.

Stormwater is pre-filtered via an EnviroSump or GPT. This provides valuable at source water quality benefits and reduces the need for long-term tank maintenance. The water then enters a pre-cast pit that is fitted with an orifice plate to reduce the rate of discharge from the tank to the designated stormwater outlet.

EnviroModule™ detention tank



- | | |
|-------------------------|------------------------------|
| 1 Downpipe | 7 Protection fabric |
| 2 Inlet pipe | 8 Geogrid under carpark |
| 3 Discharge control pit | 9 Coarse river sand backfill |
| 4 Lockable lid/grate | 10 Maximesh screen |
| 5 EnviroModules | 11 Orifice plate |
| 6 Tank liner | 12 Outlet to stormwater |

system components

- EnviroModules – 9.25 modules/cubic metre
- Connector pins (optional)
- 150mm pipe connector (optional)
- EnviroSump filtration unit
- Pre-cast discharge control pit
- Tank liner
- Geotextile fabric

bio-remediation

Stormwater flowing from roadways, carparks and pavements contain toxic and gross pollutants. Heavy metals such as zinc, copper and lead are deposited on our roadways and are washed into the stormwater drains with each rainfall.



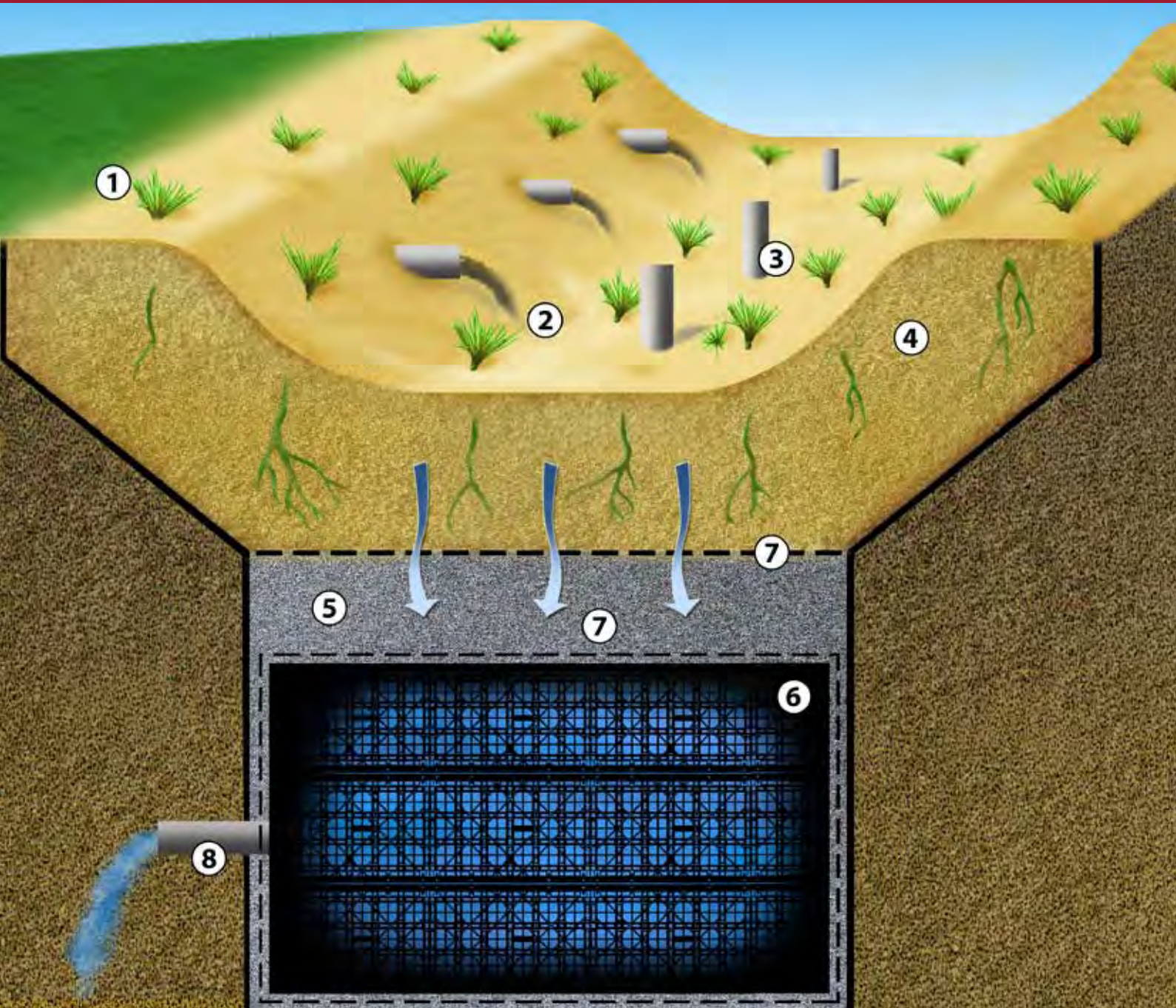
Other stormwater pollutants include nutrients from decaying organic matter, detergents and pathogens from animal waste. Without proper management this polluted water will end up in our oceans and waterways seriously impacting aquatic ecosystems.

Gross Pollutant Traps (GPT's) are effective in capturing solids such as litter, sediment and organic waste. However, in most cases it is not possible to treat stormwater for nutrients and heavy metals using such systems. A secondary stage of filtration is required based on treatment techniques used by other

technologies such as constructed wetlands, sand filters and bio-retention systems.

AUSDRAIN™ EnviroModules can be effectively used to create a secondary treatment system. This system has proven to be extremely effective in the treatment of stormwater run-off. During light to medium rainfall all stormwater is directed to the system for treatment. During large storms the system adequately treats the initial “first flush” runoff containing the major concentration of pollutants.

EnviroModule™ treatment system



- | | |
|----------------------------|---------------------|
| 1 Vegetation | 5 Clean 7mm gravel |
| 2 Untreated stormwater | 6 EnviroModules |
| 3 Inspection points | 7 Geotextile fabric |
| 4 Coarse washed river sand | 8 Clean stormwater |

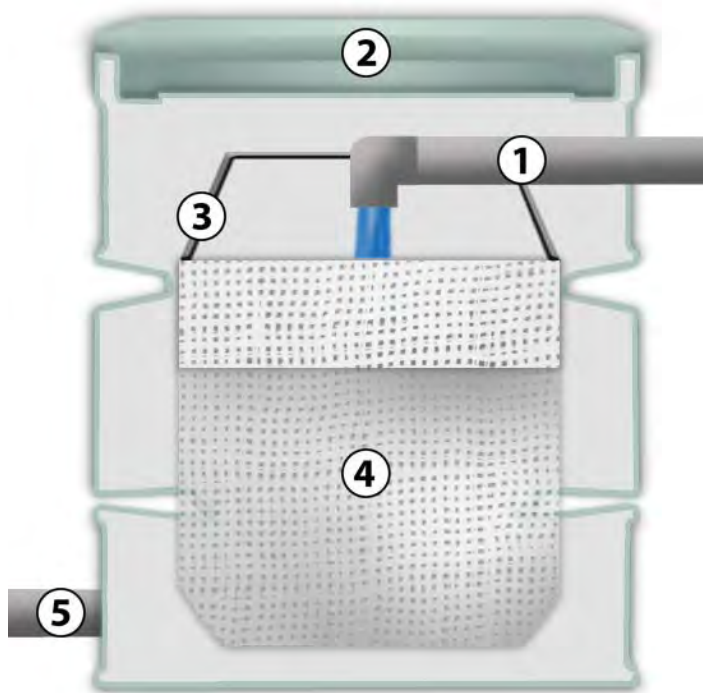
system components

- EnviroModules – 9.25 modules/cubic metre
- Connector pins (optional)
- 150mm pipe connector (optional)
- EnviroSump filtration unit and/or GPT
- Geotextile fabric

filtration

EnviroSump™

The AUSDRAIN EnviroSump has been developed as a low cost, effective and easy to maintain stormwater filtration unit.



1. Inlet pipe
2. Lid or grate
3. Handles
4. Filter bag
5. Outlet pipe



Stormwater flowing from roof areas and pavements is directed into the EnviroSump via downpipes or a surface grate. The AUSDRAIN EnviroSump traps sediment and gross pollutants allowing clean water to flow through the filter.

Each unit consists of a 600x600x700mm polyethylene pit and a removable filter bag on stainless steel rim with handles. The filter bag has a 200 micron base section and a 400 micron overflow. The filter bag is easily removed for maintenance. This involves discarding the contents of the bag as compost and washing the bag before replacing.

The EnviroSump is available with a solid plastic lid or galvanized grate. When required a 600x600x300mm riser is also available allowing flexibility for required pipe invert levels.

The EnviroSump is suitable for residential and smaller size projects and is recommended for installation in landscaped areas only.

technical data

Dimension:	600 x 600 x 700mm
Riser:	600 x 600 x 300mm
Capacity:	250/350 litres
Max flow rate:	
200 micron filter:	10 litres/sec
400 micron filter:	20 litres/sec
Max depth:	1.3m
Material:	UV stabilised polyethylene
Colour:	Mist green

product guide

Code	Product Description	Dimensions
AUSDRAIN EnviroModule		
100212	Standard duty module - 4 sides / 3 braces	600 x 400 x 450mm (9.25 per cubic metre)
100214	Extra duty module - 4 sides / 4 braces	600 x 400 x 450mm (9.25 per cubic metre)
100216	Double module - standard or extra duty	600 x 400 x 900mm (4.6 per cubic metre)
100218	Triple module - standard or extra duty	600 x 400 x 1350mm (3.1 per cubic metre)
AUSDRAIN EnviroModule Connectors		
100210	EnviroModule connector pin	4 per double module/8 per triple module
100215	EnviroModule 150mm pipe connector	
AUSDRAIN Filtration Systems		
102060	EnviroSump filtration unit	600 x 600 x 700mm
102075	EnviroSump riser	600 x 600 x 300mm
102065	EnviroSump filter bag	440 x 440 x 300mm
102070	Light-duty galvanised grate	540 x 540mm
AUSDRAIN Tank Liners		
101010	Geotextile fabric	2 x 25m/ 2 x 50m/ 4 x 50m
101020	Detention tank flat sheet liner	Made to suit tank dimensions
101030	Rainwater harvesting tank flat sheet liner	Made to suit tank dimensions
101040	Rainwater harvesting tank fitted liner	Made to suit tank dimensions
AUSDRAIN EnviroModule Rainwater Harvesting Tanks		
R2500	2500 litre rainwater harvesting tank	1200 x 1600 x 1350mm
R5000	5000 litre rainwater harvesting tank	2400 x 1600 x 1350mm
R10000	10000 litre rainwater harvesting tank	2400 x 3200 x 1350mm
R20000	20000 litre rainwater harvesting tank	4800 x 3200 x 1350mm
Please note: AUSDRAIN rainwater harvesting tanks can be supplied to any dimension/capacity required		



Pipe connector



EnviroModule 2



Connector pin



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Manufactured from 100%
environmentally friendly recycled
plastics

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Disclaimer

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