

ProTank®

Superior Stormwater Management



Global Synthetics
LEADERS IN GEOSYNTHETICS EXPERTISE. ADVICE.



INFILTRATION



DETENTION



HARVESTING



WASTE

Global Synthetics ProTank®

Global Synthetics is an Australian owned and operated company specialising in subsurface drainage, soil and ground stabilization, retaining walls, erosion control and lining systems.

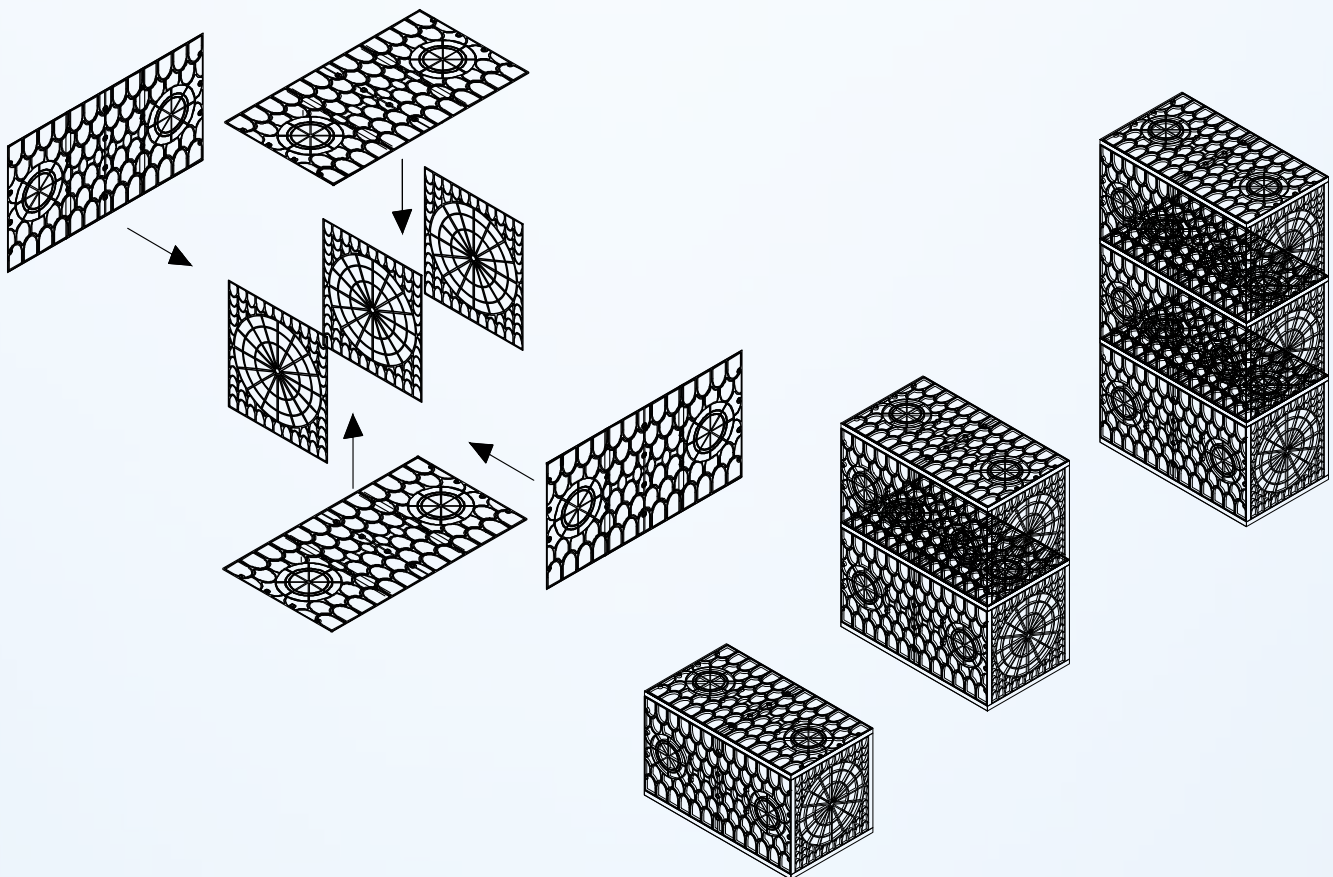
ProTank® is a unique modular subsurface drainage system designed to collect water at its source. **ProTank®** has the flexibility to infiltrate, attenuate, detain or harvest water for re-use.

ProTank® can be installed under driveways, car parks, roads, landscaped areas and other trafficable applications. The unique domed webbing profile of the **ProTank®** components provide exceptional strength (refer to loading allowances on page 7).

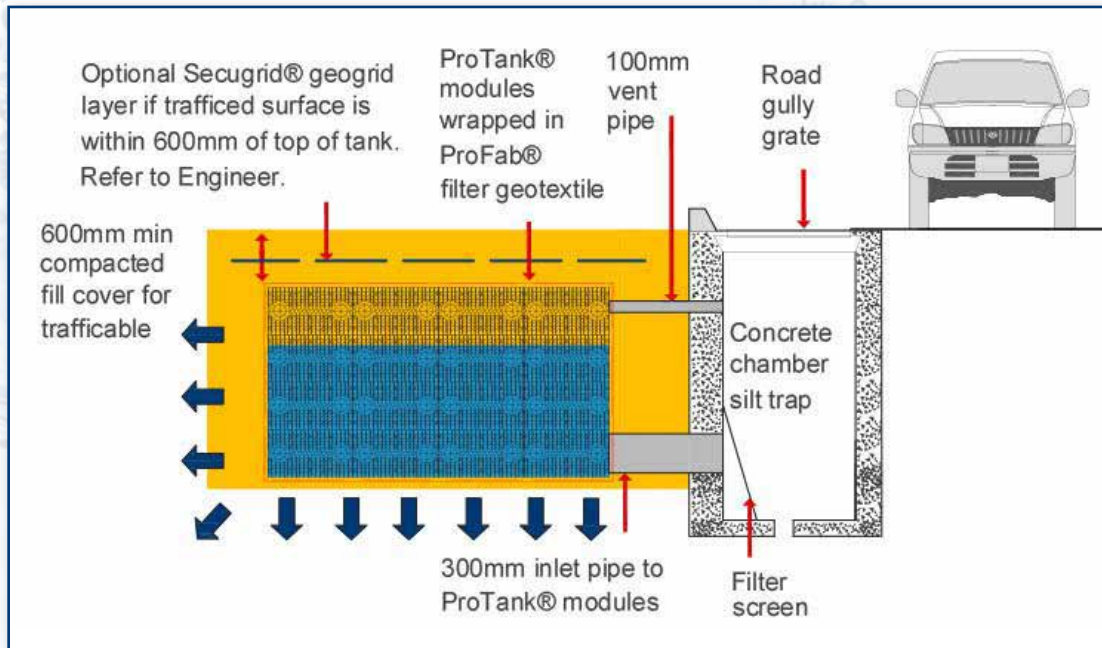
Modules are assembled using just two components or 'plates,' both having dedicated entry ports to cater for five different pipe sizes. The smaller plate can accommodate pipes up to 300mm diameter. This makes **ProTank®** modules ideal for connection to domestic and commercial services. The dedicated entry ports negate the need to cut holes in the module which sacrifice structural integrity.

Features and Benefits

- Manufactured from premium quality recycled resin to meet the most demanding performance requirements.
- Generous internal and surface void area provides optimum storage and/or infiltration capacity.
- Easy access via specially designed ports on every surface of the module. This ensures trouble free access and maintenance.
- No requirement for imported drainage aggregate or special fill.
- Low cost, light weight and fast safe installation.
- Can be installed as a 'single block gallery' or 'finger gallery' to accommodate a variety of hydraulic conditions and space allowances.

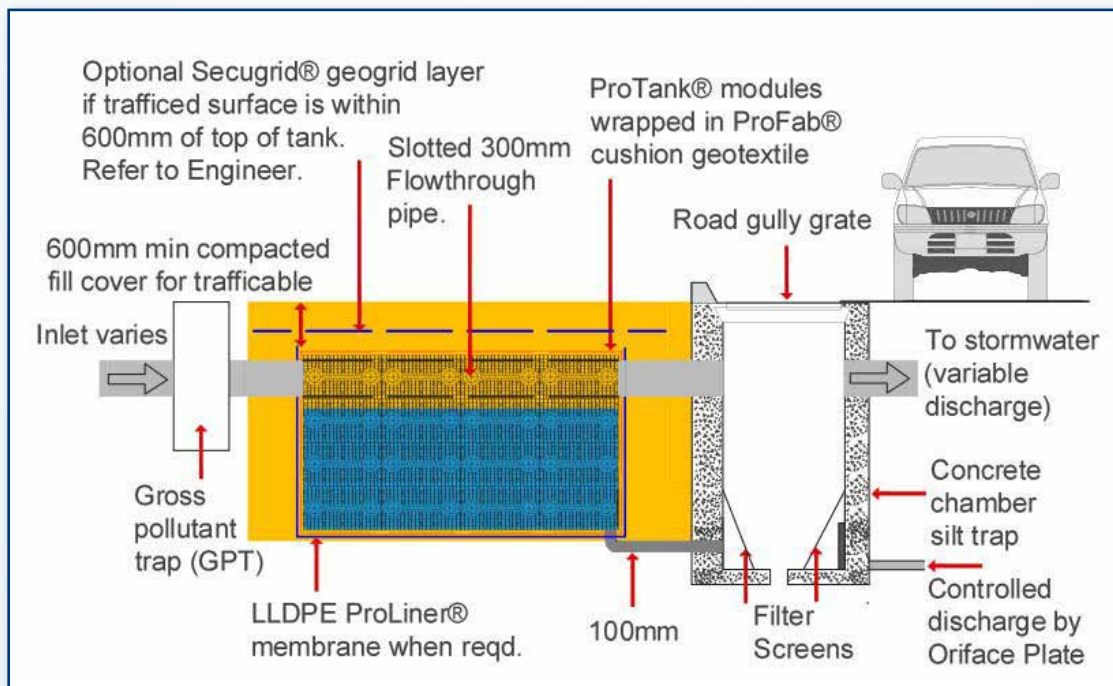


ProTank® Commercial Applications



INFILTRATION SYSTEM

- Rapid soakage through all filtered surfaces
- Silt pit and filter screen provides silt and pollutant protection
- Optional slotted pipe for greater silt isolation
- Provision for peak flow via gully grate
- Multiple access points for pipe connection
- Minimal trouble free maintenance

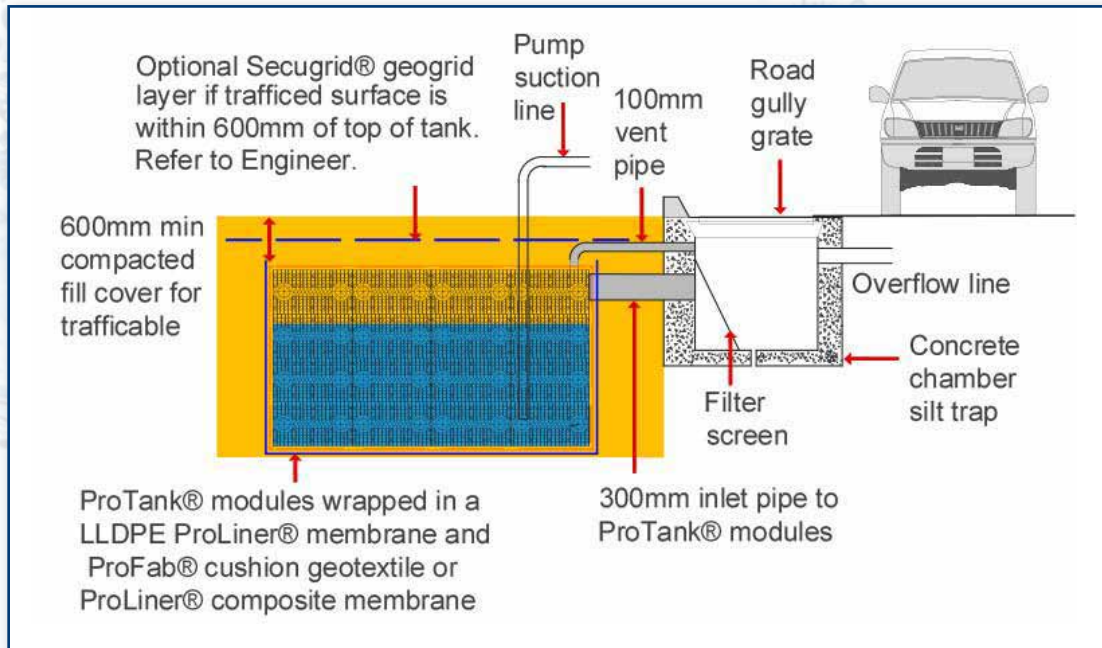


DETENTION SYSTEM

(INCLUDING GPT & FLOW-THROUGH SLOTTED PIPE)

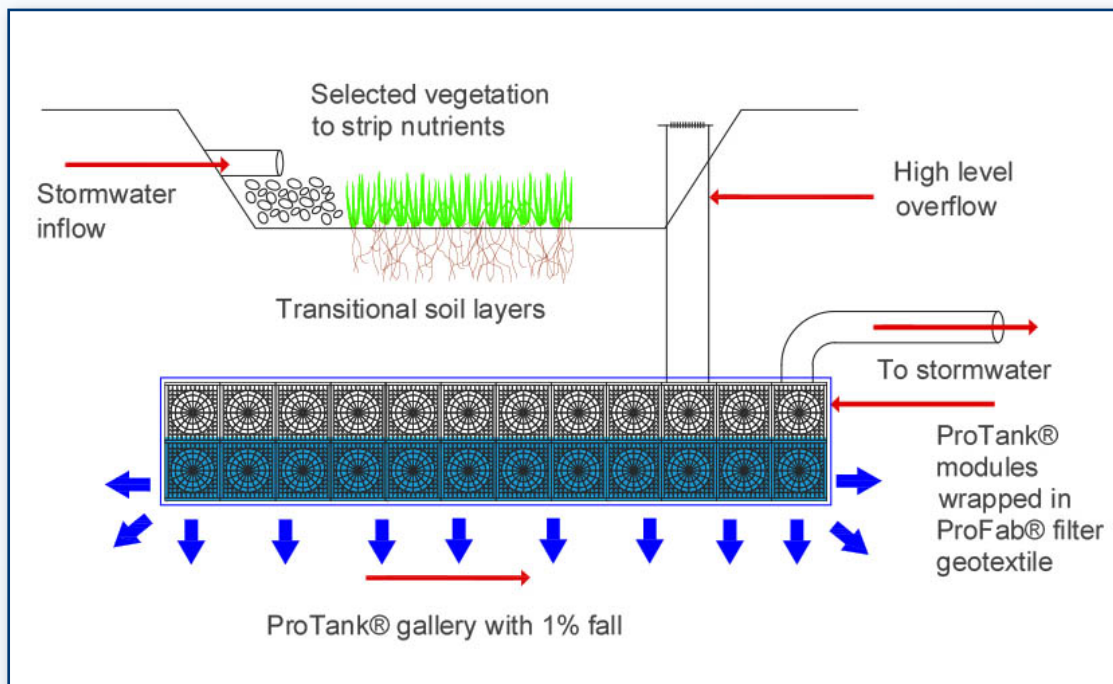
- Eliminates pollutants from entering modules
- Controlled discharge to downstream environments
- Provision for peak flow events
- Fully self draining modules
- Maintenance free configuration

ProTank® Commercial Applications



HARVESTING SYSTEM

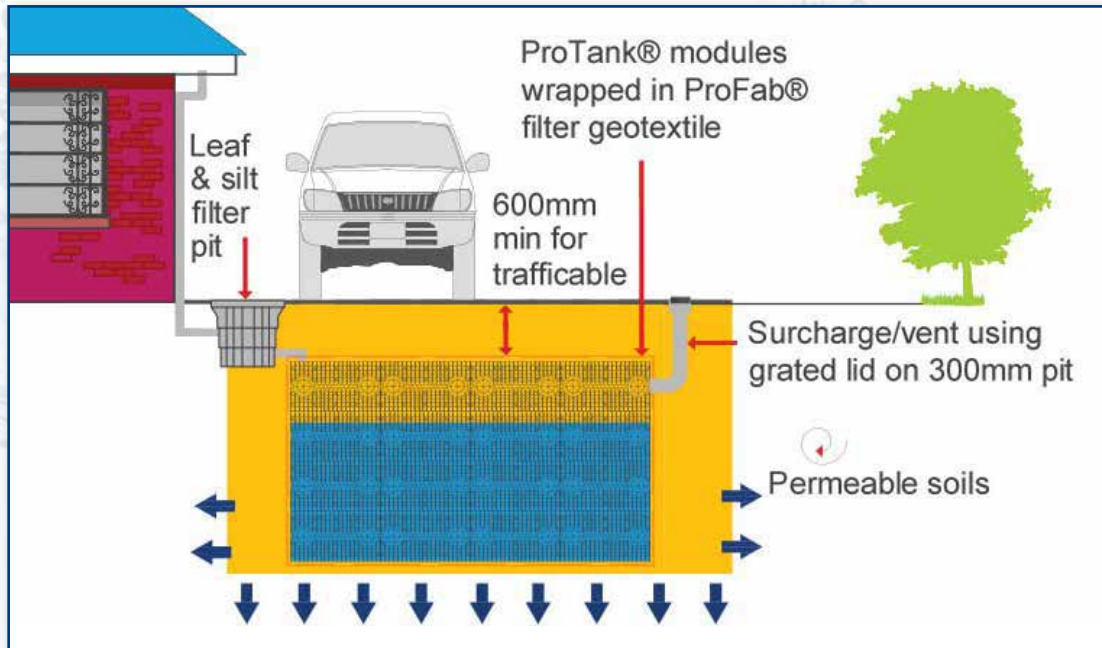
- Captures storm water for re-use
- Silt pit and filter screen provides silt and pollutant protection
- Provision for peak flow events
- Multiple access points for pipe connection
- Minimal trouble free installation and maintenance



BIO RETENTION BASIN/SWALE SYSTEM (WITH DETENTION VALUE)

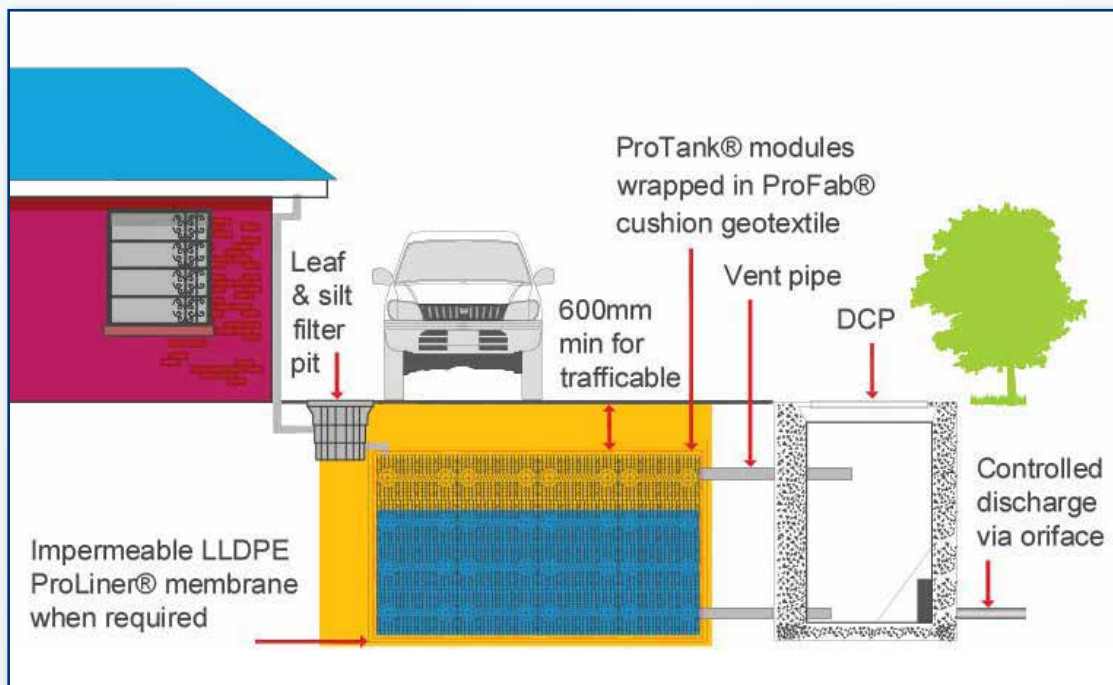
- Eliminates pollutants from entering modules
- Controlled discharge to downstream environments
- Provision for peak flow events
- Fully self draining modules
- Maintenance free configuration

ProTank® Domestic Applications



INFILTRATION SYSTEM

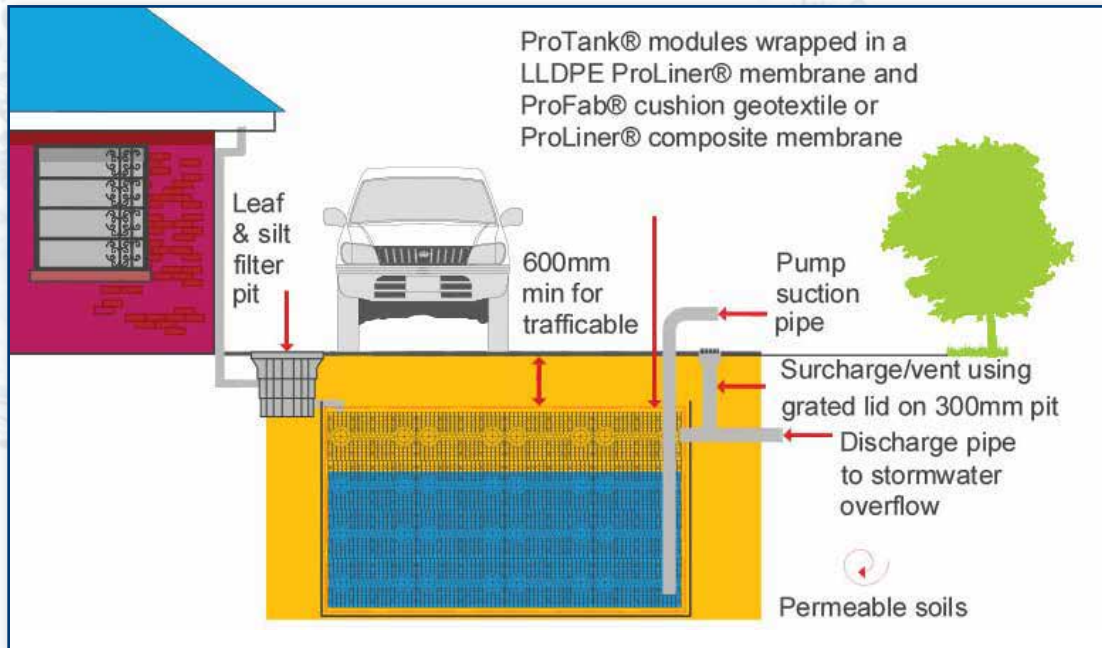
- Rapid aquifer recharge through all filtered surfaces
- Employs simple leaf and silt capture
- May be located under vehicle access areas
- Provision for peak flows
- Multiple access points for pipe connection
- Minimal trouble free installation and maintenance



DETENTION SYSTEM

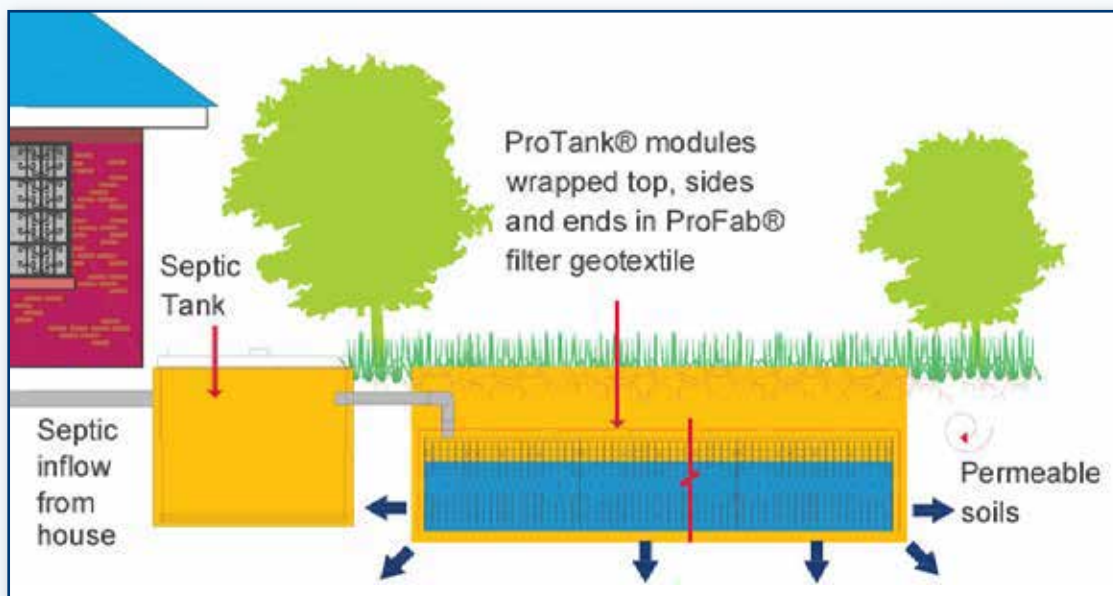
- Employs simple leaf and silt capture
- Controlled discharge to downstream environments
- May be located under vehicle access areas
- Modular design enables shaping to suit confined spaces
- Suitable for all soil types
- Minimal trouble free installation and maintenance

ProTank® Domestic Applications



HARVESTING SYSTEM

- Captures storm water for re-use
- Employs simple leaf and silt capture
- May be located under vehicle access areas
- Modular design enables shaping to suit confined spaces
- Suitable for all soil types
- Provision for peak flow events
- Multiple access points for pipe connection
- Minimal trouble free installation and maintenance



LEACH DRAIN SYSTEM

- Fast and simple assembly with just two components
- Light weight for easy and safe handling
- Fewer modules required than other brands
- Multiple access points for pipe connection
- Maximum surface area for waste disposal
- Health Department approved

Global Synthetics ProTank® specifications

Module (units)	Width (mm)	Length (mm)	Height (mm)	Typical tank volume (litres)	Typical storage volume (litres)
Single (one)	403	720	443	129	123
Double (two)	403	720	866	252	239
Triple (three)	403	720	1289	374	355
Quad (four)	403	720	1712	497	472
Penta (five)	403	720	2135	620	589

Internal Void Ratio

95% Void

Material

100% recycled polypropylene + customised polymers can be utilised for special projects

Biological and Chemical Resistance

Unaffected by mould and algae, soil-borne chemicals, bacteria and bitumen, oil and light acid or alkaline solutions

Service Temperature

-10°C to 85°C

Flow Rate

2400 L/minute per single module area @ i = 0.01

ProTank® Module Configuration	Compressive Strength Unconfined	Minimum Recommended Cover	Maximum Recommended Cover	Maximum depth to bottom of Tank	Maximum height of Modules
Standard Duty Three Plate Module	21 T/m ²	300mm	1200mm	2400mm	1712 (4 high)
Heavy Duty Four Plate Module	24 T/m ²	600mm	2000mm	3000mm	2135 (5 high)
Ultra Duty Five Plate Module	28 T/m ²	600mm	2000mm	3000mm	2135 (5 high)

- Compressive strength results are derived from testing in an 'unconfined state', meaning that these are index tests which are more conservative than in-ground, backfilled and compacted conditions.
- Standard Duty Modules are not recommended for trafficable ('ride on vehicle') applications.
- Minimum and Maximum cover recommendations for Heavy and Ultra Duty Modules allow for 'light commercial' vehicles only. Applications for higher dynamic loads should be assessed separately by the project engineer.
- ProTank® modules must be installed in accordance with the 'ProTank® Assembly and Installation Guidelines'.



Quality Control is critical

We engage the University of Western Australia (UWA) to undertake regimented quality control compressive strength testing on ProTank®. UWA use a 'NATA calibrated' hydraulic Instron machine with a capacity of 500KN.

Resin quality directly influences deformation and allowable compressive loads. ProTank® exhibits ductile deformation under live and static loading (see Figure 1) whereas some competitor products with inferior quality resin exhibit 'explosive' brittle failure under live and static loading (Figure 2).

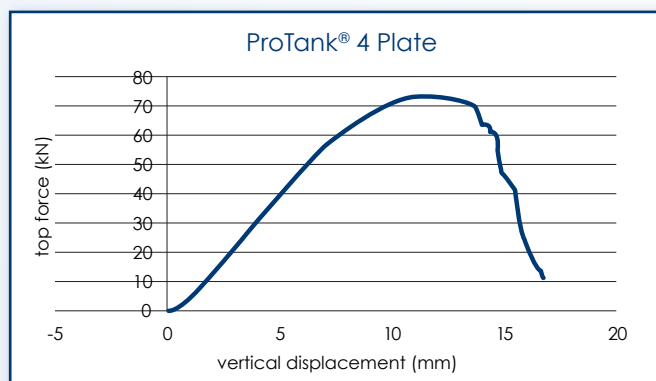


Figure 1: ProTank® Compressive Load Test

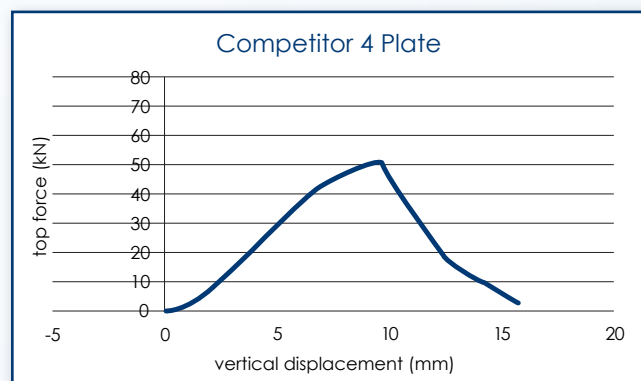


Figure 2: Competitor Product Compressive Load Test

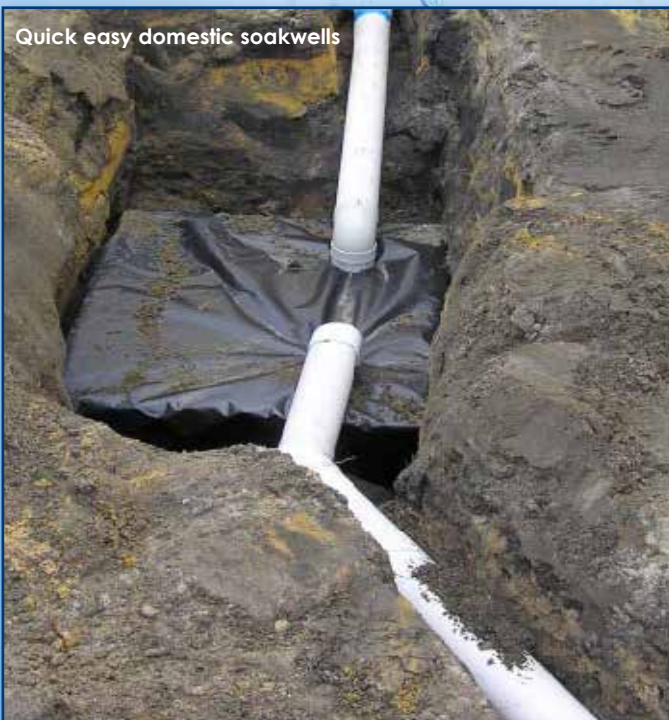
Preformed ports make easy connection



Modular configurations suit confined spaces



Quick easy domestic soakwells



Preassembled modules ready for commercial installation



Stormwater detention



Council infiltration project

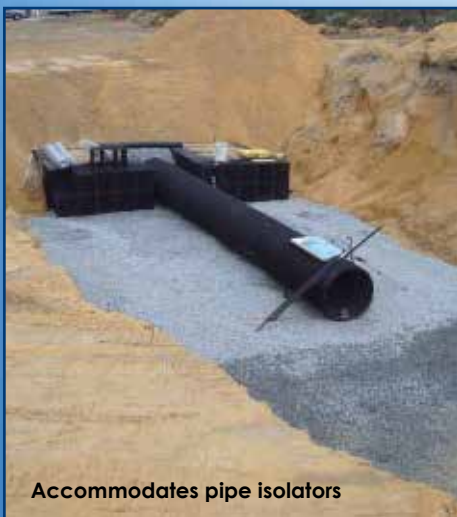




School infiltration project



Broad-acre harvesting (1.25 million litre government project)



Accommodates pipe isolators



Group subdivision harvesting



Owner install - domestic harvesting

ProTank®

Superior Stormwater Management



Global Synthetics
LEADERS IN GEOSYNTHETICS EXPERTISE. ADVICE.

Global Synthetics have available the following documents and services to support the installation of **ProTank®**:

- Assembly and Installation Guideline
- **ProTank®** Model Specifications
- **ProTank®** Stormwater Capacity Charts
- **ProTank®** Leach Drain Capacity Charts
- Concrete to **ProTank®** Volume Conversion Charts
- Extensive range of **ProTank®** Standard Drawings
- Project specific design support with dedicated CAD
- Site assistance and supervision

Global Synthetics is a 100% Australian-owned company, proud to offer a complete range of high-quality geosynthetic products backed by over 100 years of combined staff experience in the industry. We have supplied products to some of the largest recent infrastructure works in Australia. Global Synthetics provides major benefits to any geotechnical engineering project with the right products and our technical expertise.

Stay on top of the latest Global Synthetics information. Visit: globalsynthetics.com.au
globalsynthetics.co.nz

SYDNEY : (02) 9725 4321

BRISBANE : (07) 3865 7000

MELBOURNE : (03) 9791 1772

PERTH : (08) 9459 4300

ADELAIDE : (08) 8384 8894

AUCKLAND : 0800 510 120

CHRISTCHURCH : 0800 510 120

All information provided in this publication is correct to the best knowledge of the company and is given out in good faith. The information presented herein is intended only as a general guide to the use of such products and no liability is accepted by Global Synthetics Pty Ltd and Global Synthetics Qld Pty Ltd for any loss or damage however arising, which results either directly or indirectly from the use of such information. Global Synthetics Pty Ltd and Global Synthetics Qld Pty Ltd have a policy of continuous development so information and product specifications may change without notice.

This document is subject to copyright and shall not be reproduced or transmitted in any form without the express written permission of Global Synthetics Pty Ltd and Global Synthetics Qld Pty Ltd.

