

DRAINWELL™

subsurface water management system



www.drainwell.com.au



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COMPANY PROFILE

Novaplas is a leader in the manufacture and supply of plastic injection moulded products for a wide range of industries from concept to completion. Novaplas was established in 1973 and has the unique understanding of complex plastic product designs and the manufacturing requirements.

Novaplas is continuously improving its products and is capable of fulfilling the ever increasing request for flexibility and high quality polymer products which enables its clients to compete and achieve business results on a higher level.

Our Drainwell Subsurface Water Management System has been designed by water experts and has been used extensively for retention, detention and harvesting. The stormwater interception may be allowed to drain into the subsoil and released at a slower rate to the local drainage system or it may be captured for reuse, being stored in the Drainwell structural storage system. Drainwell systems retain the permeability of natural surfaces. The trafficable area installed does not increase run-off when Drainwell systems are installed over a base of coarse gravel, the interception rate will be higher than that of the open fields. Drainwell has been the cost effective solution to numerous drainage applications.

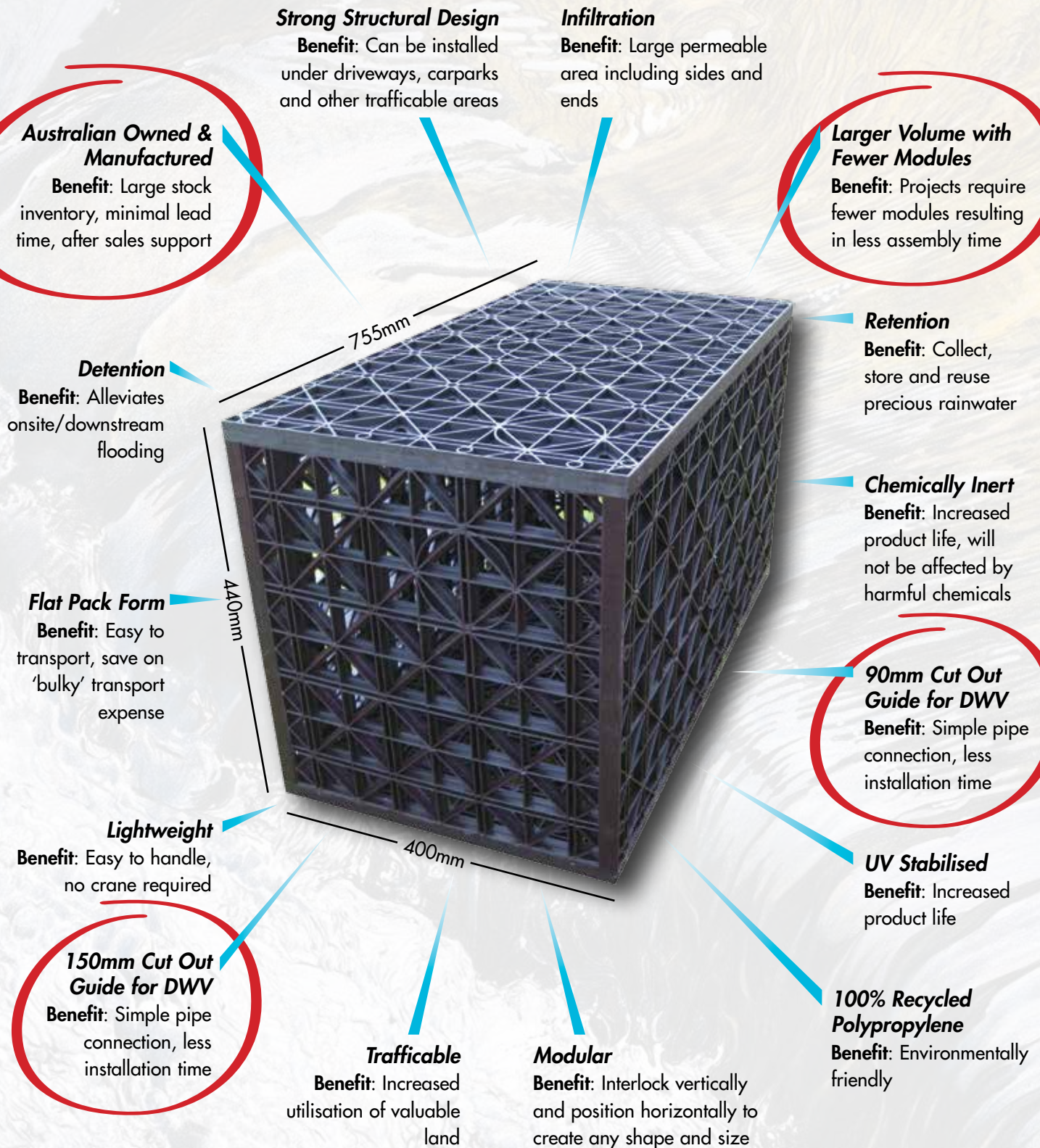
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STORMWATER

As time progresses urban drainage systems are being more and more challenged by the increased run-off that is generated by increased urban densities. Approximately 15% of rainwater that falls on natural surfaces finds its way into waterways, but almost 85% of rainwater that falls on the house roofs and paved driveways finds its way into the local drainage system. The water volume that would otherwise be directed to ground water or natural stream flow is vastly diminished and our environment is being severely degraded. As driveways are extended, outbuildings may be added, barbecue areas are developed and grassed areas may be replaced by feature paving, the impervious fraction of a residential site increases. Only a few decades ago, designers of residential drainage systems expected approximately 40% of rainwater that fell on a house site would find its way into their drain. By installing stormwater detention systems on site we can protect the drainage infrastructure. Approximately 85% of the rainwater that falls onto open ground percolates into the soil. A significant portion of this makes its way to the water table, but our ground water reserves are being depleted because urbanisation reduces the inflow and the increased use of bores that are sunk to enable the watering of gardens, parks, playing fields and golf links. Captured run-off may be used to water your own garden or shared with neighbours and can also be circulated through the toilet flushing systems, these are further options.

features & benefits



infiltration – detention – water



450KL infiltration

1.3ML detention tank



harvesting – retention



during

375KL detention tank

after

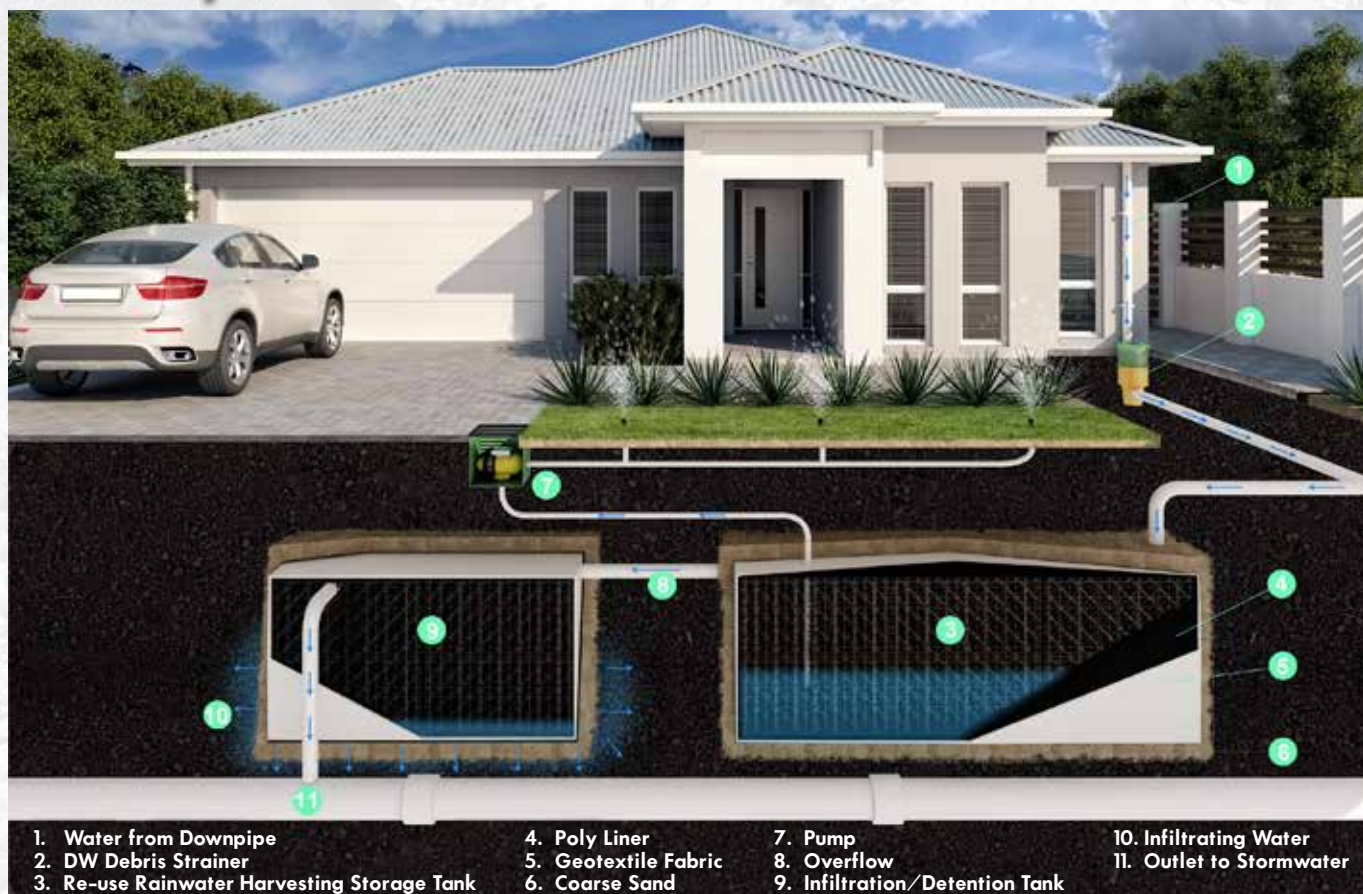


1ML detention tank

Drainwell residential

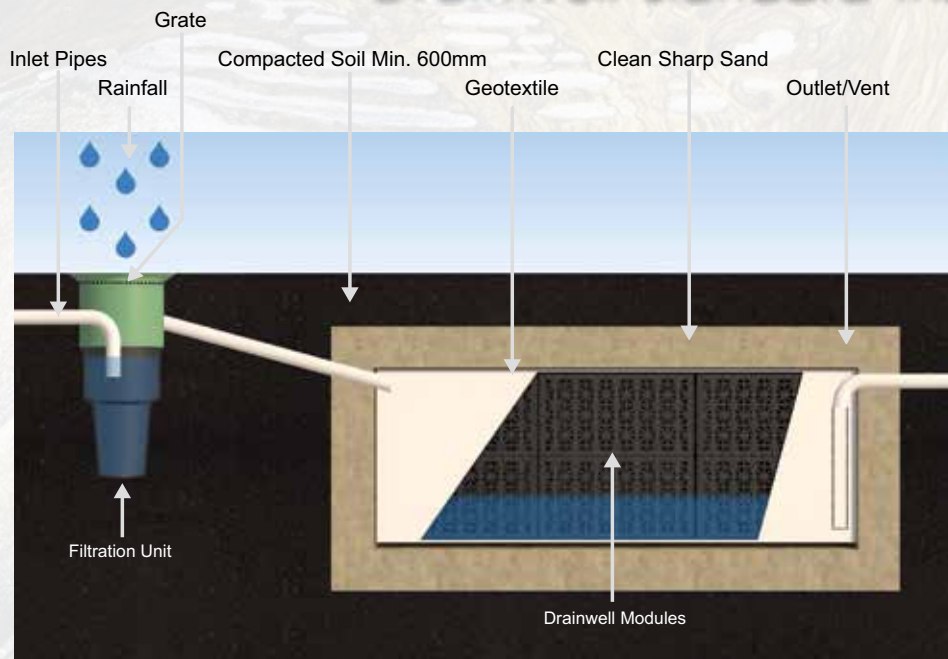


the system



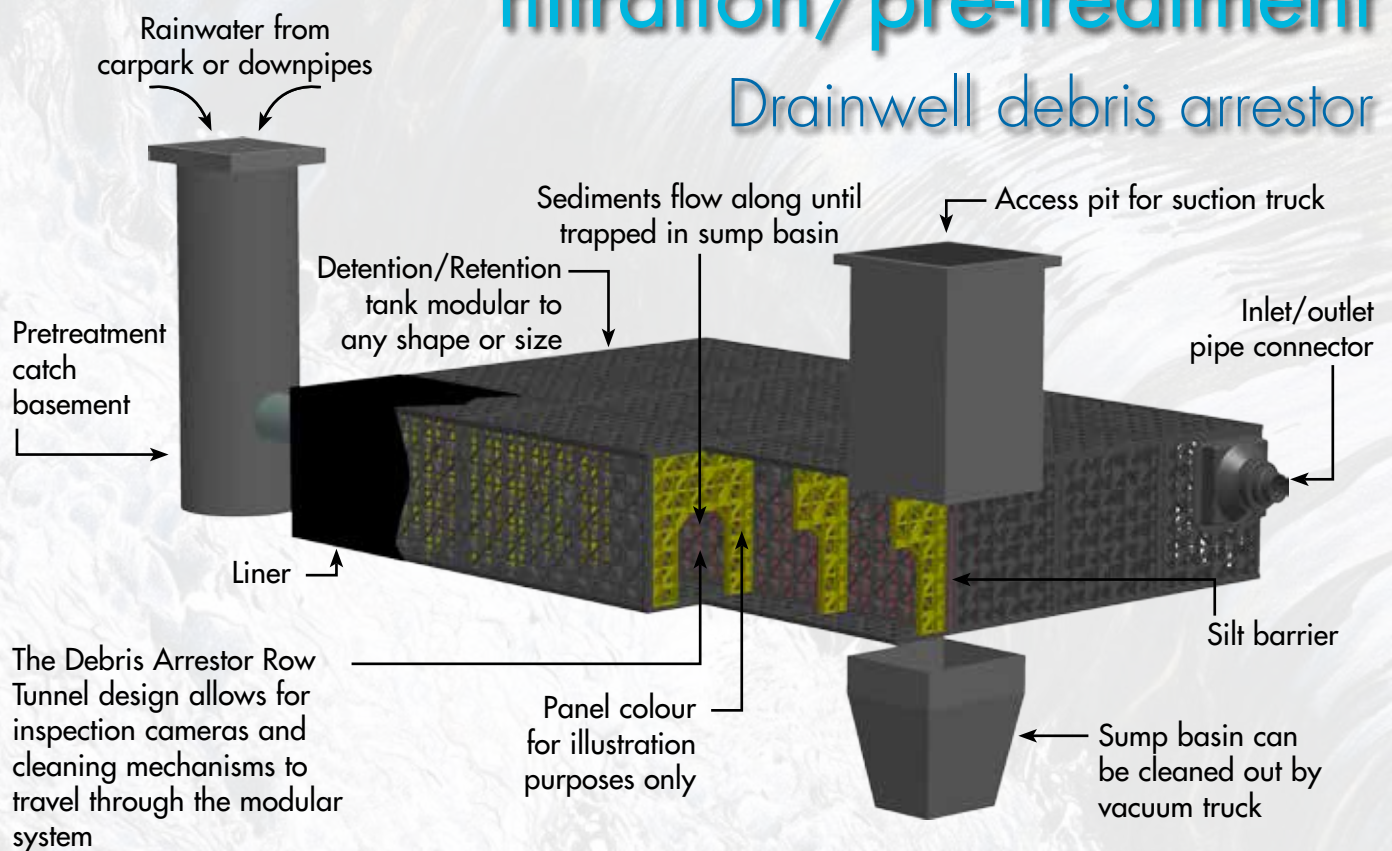
system design

Drainwell standard installation



filtration/pre-treatment

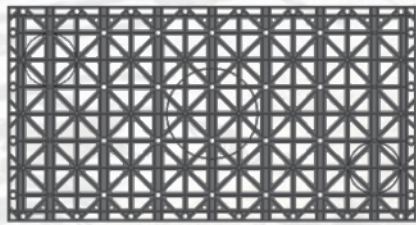
Drainwell debris arrestor



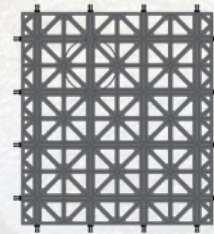
Stormwater enters the Drainwell Debris Arrestor Row allowing cleaner water to be stored or retained in the main Drainwell tank

single module assembly

assembly instructions for module DW1592



PANEL A (LARGE WITHOUT PINS)



PANEL B (SMALL WITH PINS)

Panels required: 4 x Panel A; 3 x Panel B (Minimum)

Rubber mallet required to ensure panels are correctly assembled together

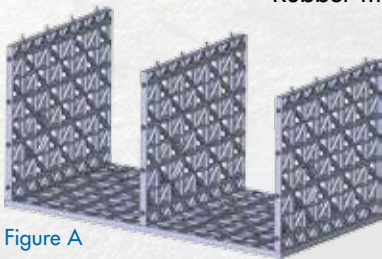


Figure A

STEP 1

Place 1 x Panel A onto a firm flat surface.

Then insert the required number of Panel B with the 400mm side into Panel A. Figure A

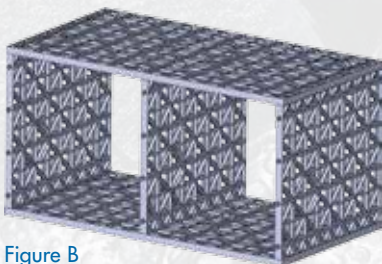


Figure B

STEP 2

Insert 1 x Panel A onto the top of Panels B. Figure B

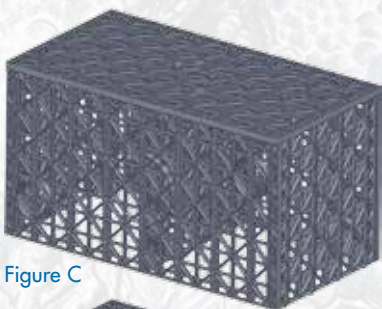


Figure C

STEP 3

Turn module over and insert 1 x Panel A onto the top. Figure C



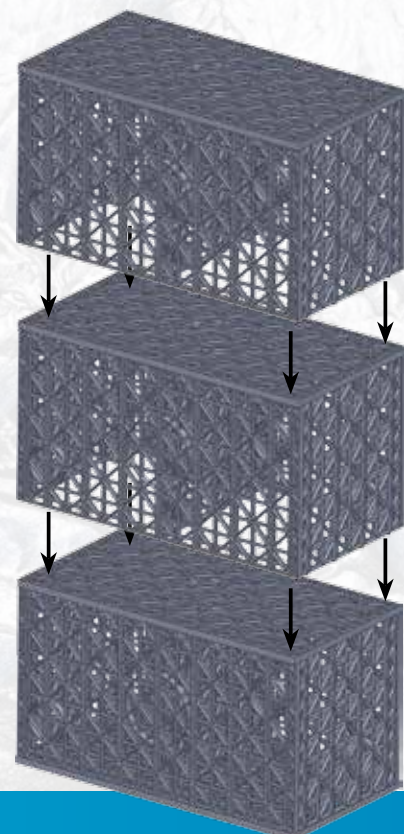
Figure D

STEP 4

Turn module over and insert Panel A onto the top. Figure D

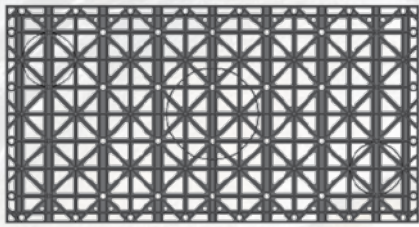
MODULE STACKING

Follow steps 1-3 and place incomplete module on top of completed module and use a rubber mallet to tap modules firmly together. See page 10 for further detail.

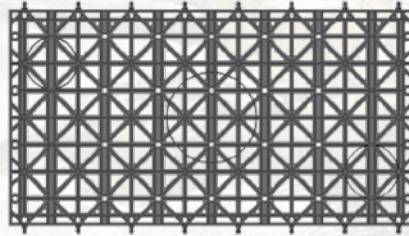


double module assembly

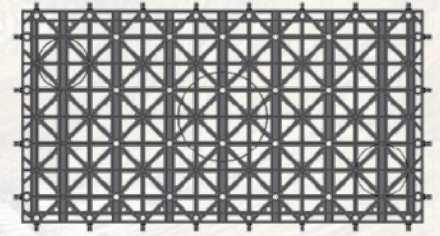
assembly instructions for module DW1992



PANEL A (WITHOUT PINS)



PANEL B (LONG SIDE PINS ONLY)



PANEL C (PINS ON 4 SIDES)

Panels required: 4 x Panel A; 2 x Panel B; 4 x Panel C (Minimum)

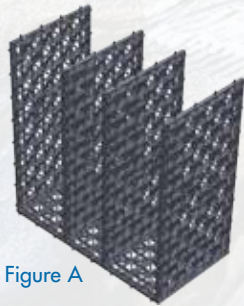


Figure A

STEP 1

Place 1 x Panel B onto a firm flat surface.

Insert minimum of 4 x Panel C, into Panel B.

Figure A

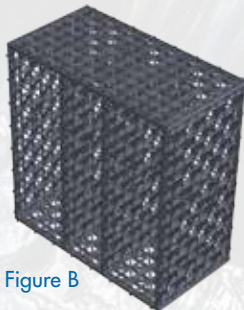


Figure B

STEP 2

Place 1 x Panel B on to the top of Panels C.

Figure B



Figure C

STEP 3

Turn module over and place 2 x Panel A onto the top. Figure C

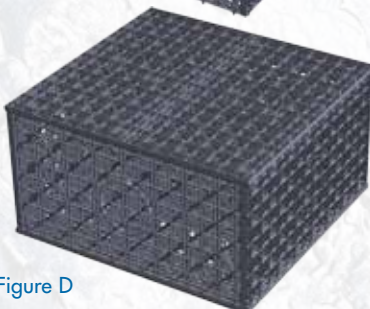
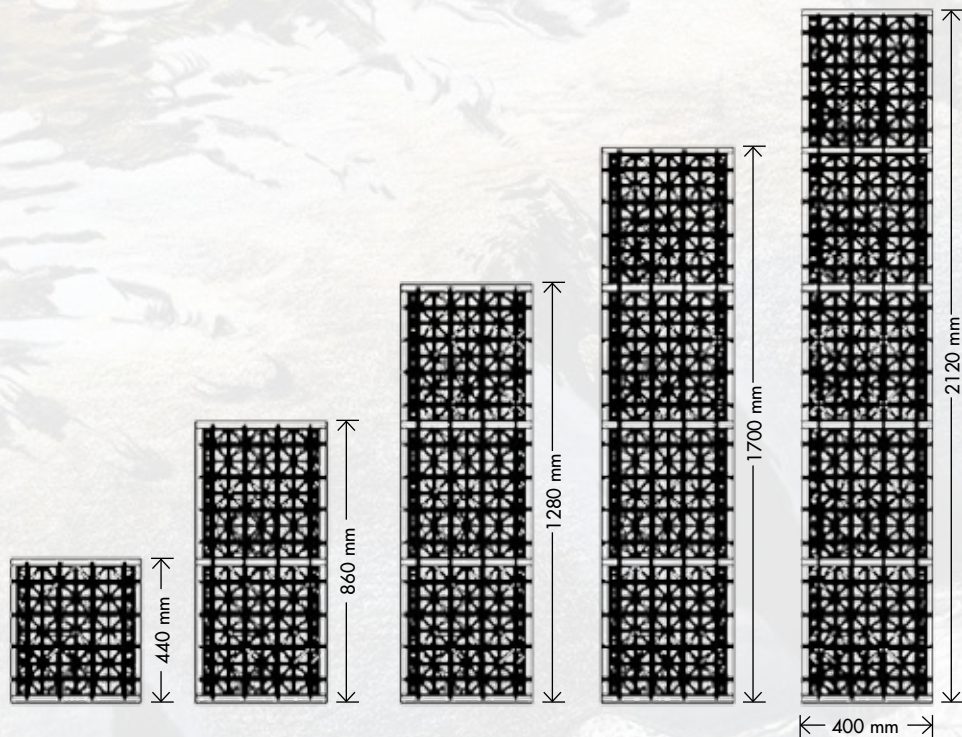


Figure D

STEP 4

Turn module over place 2 x Panel A onto the top. Figure D

typical installation instructions



INFILTRATION SYSTEM

1. Form a pit by excavation, according to specified dimensions
2. Level base of pit and compact.
3. Backfill pit with a minimum 100mm of coarse sand, and compact.
4. Line base and walls of pit with Geotextile ensuring that seams have a minimum 200mm overlap. Seal joints with adhesive PVC tape. Allow sufficient Geotextile length to cover the surface of the Drainwell modules once positioned in pit.
5. Place assembled Drainwell modules into position, on top of Geotextile, inside pit. Ensure modules are placed with 440mm side in the upright position.
6. If required, secure Drainwell modules together with clips or heavy duty cable ties.
7. Cut holes in the correct position for inlet and outlet pipes. Outlet must be positioned lower than inlet.
8. Tightly cover the sides and top of modules with Geotextile. Ensure overlaps and inlet/outlet areas are sealed with adhesive PVC tape.
9. Backfill around sides and top of modules with minimum 100mm clean coarse sand and compact according to engineers specifications.
10. Backfill a minimum 600mm of clean fill on top of modules and compact according to engineers specifications.


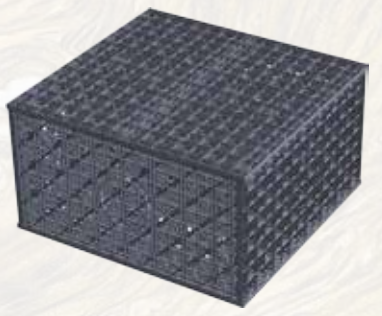
DETENTION/RETENTION SYSTEM

1. Follow steps 1-4 above.
2. Line base and walls of pit with UV stabilised Polypropylene Liner (min. 400 micron). Seal joints with tape supplied. Allow sufficient liner length to cover the surface of the Drainwell modules once positioned in pit.
3. Install a second layer of Geotextile over the PPL.
4. Follow steps 5-10 above.

ADDITIONAL INSTALLATION NOTES

1. It is important that every Drainwell installation is fitted with an overflow or vent.
2. Any connection of inlet or outlet piping through liner should be made with a good seal around penetration point.
3. Pre-filtration of stormwater is an essential component of every Drainwell system.
4. If the Drainwell installation is to be under a carpark or trafficable area, it is recommended to use a layer of woven Geotextile on top of the Drainwell modules. It should extend a minimum 500mm beyond the perimeter of the excavation.

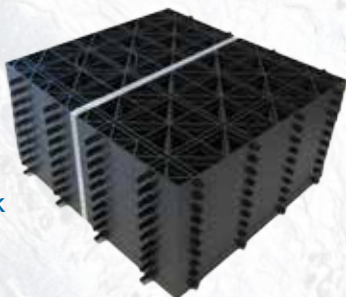
specifications

			
Drainwell™ Model		DW1592	DW1992
Dimensions (mm)	Length	755	755
	Width	400	800
	Height	440	440
Volume (m3)		.132	.264
Tanks per m3		7.5	3.7
Weight (Kg)	3 Panels	6.65	12.85
	4 Panels	7.3	14
	5 Panels	7.9	15.15
Maximum Load (Tons/m²)	3 Panels (1 Internal)	23.66 t/m²	9.45 t/m²
	4 Panels (2 Internal)	29.76 t/m²	9.61 t/m²
	5 Panels (3 Internal)	32.42 t/m²	16.20 t/m²
Internal Open Area		<95%	<95%
Polymer Type		Polypropylene UV Stabilised	
Service Temp		-20°C to 120°C	
Chemically inert and not affected by Moulds and Algae			

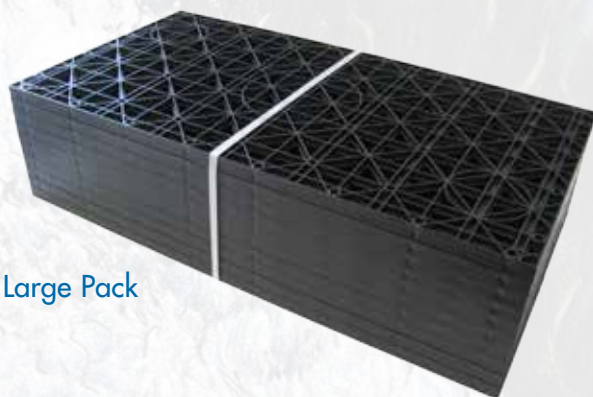
PALLET PACKAGING

Drainwell modules are delivered to site flat-pack on pallets. A forklift is required for unloading of pallets. A full pallet of Drainwell panels weighs approximately 600kg.

Small Pack



Large Pack





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Disclaimer:

2013 Novaplas P/L reserves the right to alter the product designs and information provided without notification. These suggestions are offered in good faith, but without guarantee, as conditions and methods of use of our products are beyond our control. We strongly recommend that the prospective user determine the sustainability of our materials and suggestions before adopting them on a commercial scale. This information supersedes any prior data and is superseded by any future information.

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