

## Case Study

### Rainwater Harvesting

Project Location	Amberley, Queensland, AUSTRALIA	Completion Date	April 2009
Project Details	Rainwater harvesting for a government facility		



In Amberley is one of the largest base facilities in Australia. The redevelopment works are valued at AU\$331.5 million. New construction and refurbishment works to be undertaken include new living-in accommodation, maintenance facilities, storage, working and training accommodation, a combined mess and a new physical fitness centre.

The site is owned by an Australian Government Department. The Atlantis® Turf Cell® was supplied by East Coast Environmental Solutions and was installed by Kennedy Projects Group in April 2009. The system is located at the playing fields on the south-western corner of Gannet St and Rosewood Road, Amberley, QLD.

A vegetated swale surrounds the playing field. The swale is an open, shallow channel designed to slow runoff, filter it, and promote infiltration into the ground. Excess water moving through the soil profile is captured by Atlantis® Matrix® Tank – Single modules. The use of a swale to collect water results in smaller runoff volumes, lower peak discharge rates and cleaner runoff. The vegetation in swales, usually thick grass, helps to trap pollutants such as suspended solids and trace metals. The Atlantis Matrix modules extend 3m (10ft) wide under the swale for 110m (360ft).

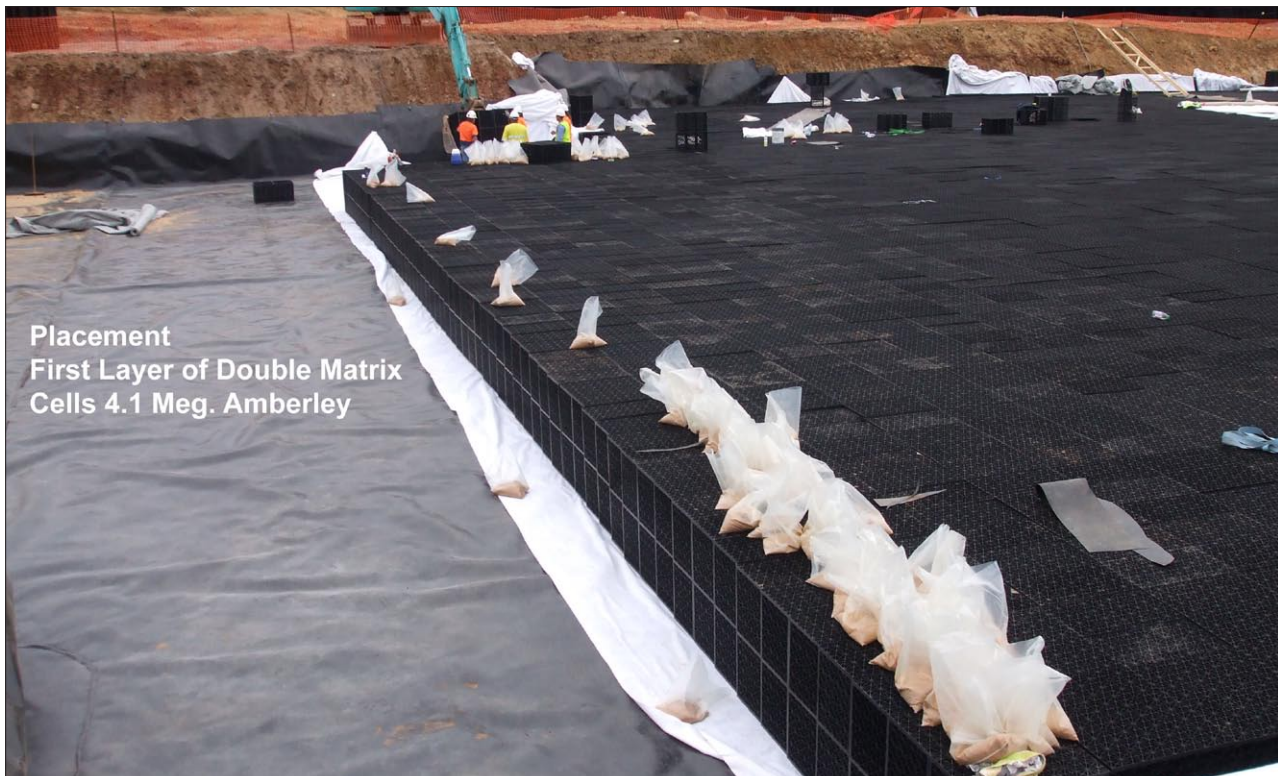
Water collected by the swale is collected in a stormwater harvesting tank located adjacent to the north-western corner of the playing field. Perforated corrugated plastic pipes used as subsurface drainage pipes extend for 1560m (5110ft) is also collected by the stormwater harvesting tank.

The stormwater harvesting tank is located subsurface and is constructed of a heavy duty low density polyethylene liner and non woven geotextile surrounding Atlantis® Matrix® Tank - Double modules. The Atlantis stormwater tank has a **4,100m³ (144,80 ft³)** capacity. Water collected by the swale and stormwater tank system is used for irrigation of the sports field.

The Atlantis stormwater tank has eight (8) cleanout / inspection ports placed through the systems. A 1200mm (4ft) dia. wet well with bolt down lids has been installed adjacent to the tank serves as a pump out pit. The overflow from the tank has a 15m (50ft) long x 400mm (1.3ft) deep spill way with scour protection into an adjacent creek.



AMBERLEY PHYSICAL FITNESS FACILITY  
CONSTRUCTION FOOTPRINT FOR 4,100,000 LITRE TANK SYSTEM



*The first layer of tank modules (double modules) installed on top of the impemeable liner and geotextile.*





*Installing the second layer of tank modules (double modules).*



*The tank modules wrapped in geotextile.*

*Channel installation.*





*Completed installation.*

**Client:** Australian Government Facility

**Location:** Amberly, QLD, Australia



**Distributor:** East Coast Environmental Solutions



**Distributor:** Kennedy Projects Group Civil Division Pty. Ltd.

**Note:** Atlantis® products are manufactured from high quality recycled materials, carefully selected and under strict quality control procedures. The strength could vary slightly due to raw material, country of manufacture, manufacturing process and external conditions.

**Safety Factors:** Engineers, designers and geotechnical engineers should design and calculate safety factors to a serviceable limited state to suit specific project. In case of doubt, consult your nearest distributor or Atlantis representative.

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