



CASE STUDY:

STABILISATION

Retarding Basins

**VARIOUS LOCATIONS, MELBOURNE
MARCH-JUNE 2017**

GEOWEB GEOCELL CELLULAR CONFINEMENT SYSTEM

The Geoweb system consists of a robust three-dimensional structure housing a network of interconnected cells that confine and compact soil. The confinement action prevents erosion and improves the structural performance of the soil or aggregate infill providing an alternative to reinforced concrete or armour. The Geoweb cellular confinement system comes in collapsed, lightweight panels which can be handled easily and safely onsite.

Because the soil or other fill material is confined, the structure is more erosion-resistant and is successfully used to improve channel stability. Geoweb helps to mobilise the channel and reduces the impact of high pressure water.

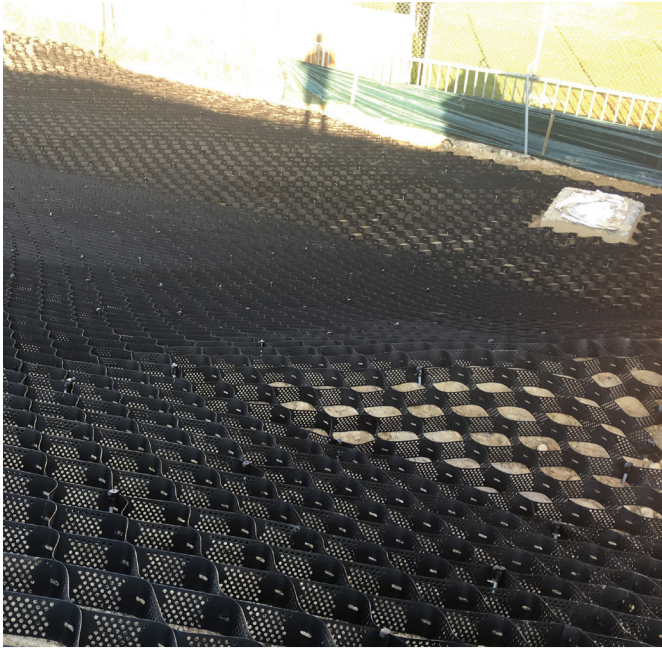
A major Melbourne Water Authority has over 200 retarding basins that are regularly assessed for risks, conduct maintenance on, and upgrade as necessary.

Guidelines based on Australian National Committee on Large Dams (ANCOLD) which represents the best Australian and international engineering practice in the safe design, management and operation of dams are used to manage these retarding basins. Each basin has been assessed against these guidelines with upgrade designs put forward by various consultants to ensure they meet minimum standards to reduce flood risk and operate safely for the community

When heavy rain occurs, the retarding basin embankment holds back stormwater and slowly releases it downstream, reducing flood risks to residents. Geoweb was requested by the Authority to be used on all embankment works to ensure good stability and vegetation.

Sites ranged from 500 m² to over 9,000 m², while Geoweb was the preferred product of choice on the majority of the sites there were alternatives used in different areas based on contractor price decisions and the perception of saving dollars by using a cheaper alternative, however contractors soon recognized the product quality and install efficiencies of the Geoweb system.

One main contractor stated that the ability to cover greater area at one time by joining multiple panels via the Atra Key and investing in an impact driver and attachment for the pins saved him at least one labour head per day, couple this with reduced install time it meant considerable dollar savings across the project.



PROTECTING NEIGHBOURING PROPERTIES

Stabilisation of this slope was crucial in preventing damage to adjacent residential properties.



SLOPE STABILISATION

The Geoweb system was used in some project locations to provide slope stabilisation.

