

CASE STUDY:

STORMWATER

WA Schools PPP

WESTERN AUSTRALIA
2016-2017

ecoAID STORMWATER MANAGEMENT CHAMBERS

ecoAID is an underground modular stormwater management system used to detain, infiltrate or harvest stormwater runoff and also provides stormwater treatment by utilising an internal gross pollutant and sediment trap via a designated inlet row called a 'Catch-All-Row' (C-A-R). The dual function of stormwater collection and treatment allows engineers to optimise their drainage layout by minimising the number of external manhole pits required on site with the added benefit of omitting any need for upstream gross pollutant and sediment traps.

Appointed by the Western Australian State Government under a PPP design, build, maintain contract the EduWest Project Co are tasked with delivering four new primary schools and two new high schools in and around Perth.

The contract, which includes facilities management for up to 31 years, includes:

Primary Schools

- Landsdale East
- Alkimos South West
- Baldivis North
- Byford South West

Secondary Schools

- Ellenbrook North
- Lakelands

Each school is being built over a large catchment area, requiring a significant number of detention and infiltration tanks to temporarily store in excess of 10,000m³ of stormwater before releasing back into the ground or into the local drainage network. After carefully evaluating the upfront and lifecycle costs, quality of materials and ease of maintenance the consortium's design team decided to utilise the proven ecoAID Underground Stormwater Chamber system on each of the six schools as this provided considerable cost savings, fast installation and an easy and effective way of servicing each tank for maintenance.

Being a government driven project there was a large emphasis placed on the consortium to source locally manufactured products and systems wherever possible. ecoAID was the natural choice as it has been designed, manufactured and structurally tested in Australia. Local manufacture not only provides a financial boost to the Australian economy, it also provides shorter lead times to site and significantly reduces the carbon footprint when compared with imported products.

Geofabrics provided continual support and assistance to the consortium’s design team and to the sub-contractors installing the ecoAID chambers on site.

The main benefits of ecoAID are:

- Australian made – reducing carbon footprint, reducing lead times and boosting the local manufacturing economy.
- Serviceable due to unimpeded access for cleaning.
- Extended maintenance return intervals.
- Extremely strong and has been assessed to AS 5100.2 Australian Bridge Design Wheel Loads.
- Each arch weighs 15 kg – Can be handled and put into place by one person ensuring safe and rapid installation.
- The arch chamber is made from Virgin Polypropylene ensuring the system meets its 100 year design life expectancy.
- Has been designed, manufactured and tested to ASTM F2787 (Structural Design of Thermoplastic Corrugated Wall Stormwater Collection Chambers).
- Cost effective – typically the lowest costing stormwater system currently on market.



Sediment Removal

A designated Catch-All-Row, is designed to capture and remove sediment.



Infiltration

A large ecoAID stormwater collection tank used for infiltration.



Ready for Cover

ecoAID has been assessed under AS 5100.2 Australian Bridge Design Wheel Loads, which means after cover (as per our installation guidelines) the system is trafficable.