Humes
Water Solutions

Strength. Performance. Passion.

Fiona Stanley Hospital

StormTrap® detention and infiltration systems

Case study

Case study

Perth's new health facility takes innovation underground

When it opens in 2014, Western Australia's new flagship health facility, the Fiona Stanley Hospital, will be a leader in clinical care, research and education. The hospital took a progressive approach to the facility's design, setting new standards in conservation and environmental management and developing one of the most technically advanced hospitals in Australia. Their innovation extended to the site's stormwater management solution, with the selection of six underground stormwater detention and infiltration systems, and a stormwater harvesting system.

The $2 billion hospital occupies a 32 hectare site with more than five hectares of natural bushland, landscaped parks, internal gardens, courtyards and plazas. Humes initially won a contract to supply five StormTrap® systems for stormwater detention but project engineers identified an opportunity to replace a large retaining wall and detention basin with a sixth StormTrap® system. The StormTrap® system was as **cost effective** as building the retaining wall, while also providing the additional advantage of moving the detention basin **below ground and freeing up land for other purposes**. This was the largest detention system supplied for the project, with a storage capacity of 3,708 m^3. Its design included a grated side opening to allow extension and interaction of the basin with nearby vegetated bushland during a high flow event, a further example of the client's focus on delivering a water sensitive urban design solution.

With a tight building schedule and a requirement for early completion of the civil drainage works, the StormTrap® system was an ideal fit for the project. Humes delivered approximately 30 units of the stormwater system to site each day. **Each piece took approximately 10 minutes to install**, with each of the systems completed and ready to be backfilled in less than 10 days. This quick installation allowed the civil and structural works on buildings, roads and car parks to progress without delay.

Designed in accordance with AS 5100.2-2004 – Bridge Design Code, the StormTrap® system also provided **a fully trafficable solution for the project**. This allowed great flexibility in terms of where the systems could be placed within the hospital grounds, with most of the units installed beneath hospital access roads and car parks. It also enabled the managing contractor to fully maximise the site for vehicular traffic and storage during construction, even before the finished surface was completed.

Project
Fiona Stanley Hospital, Murdoch, WA

Owner
Government of Western Australia

Managing contractor
Brookfield Multiplex

Engineer
BG & E

Principal subcontractor
Downer Edi Works

Sub-contractor
TC Drainage

Product supplied
6 StormTrap® detention and infiltration systems with a total combined storage capacity of 12.4 ML

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