

## Flagship hospital for WA

Perth's state-of-the-art Fiona Stanley Hospital has officially opened. Billed as the country's most advanced hospital, the two billion dollar project was Western Australia's largest-ever building infrastructure development.

The public hospital is 15 kilometres south of the CBD and nine kilometres east of Fremantle. The facility is a major tertiary hospital as well as providing health care services to both local communities and across the state. The final phases of construction finished in February this year with the opening of the Emergency Department and the Heart and Lung Transplant Services.

The Fiona Stanley Hospital is a 783-bed, 6,300-room development that combines the latest in cutting edge technology with design that blends seamlessly into the natural environment. With 150,000 square metres of floor space, the hospital occupies five main buildings, taking up the equivalent of four city blocks. The whole development is set in more than five hectares of natural bushland, landscaped parks, internal gardens, courtyards and plazas.

Construction included the main hospital building, pathology/education centre, central plant building, two multi-storey car parks and a service tunnel to the main hospital.

### Precast manufacturer

#### Architects

Hames Sharley Architects

Hassell Architects

### Service Engineer

**BG & E Consulting  
Engineers**

### Precast manufacturer

Delta Corporation

Humes

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Each of these structures features extensive use of architectural precast walls and Deltacore™ floor planks, supplied by Delta Corporation. Precast was chosen because it offers architectural finishes of various colours and textures that can't be achieved with conventional construction.

As well as including precast walls and floors, a feature of the project is Humes' innovative StormTrap™ detention system.





Humes initially won a contract to supply five detention systems, but project engineers extended that contract to six.

The storm water system chosen was supplied as purpose-built detention and infiltration, produced by connecting individual precast modules into a particular configuration to meet project requirements. This unique approach provided an extremely simple and flexible design solution without compromising above ground land use.

The largest of the project's detention systems replaced a large retaining wall and detention basin with a storm water system. The StormTrap™ detention system was as cost effective as building the retaining wall. With a storage capacity of 3,708 cubic metres, the system's design included a grated side opening which allows extension and interaction of the basin with nearby bushland during high flows. This is a further example of the client's focus on delivering a water sensitive urban design.

Given its tight building schedule and requirement for early completion of civil drainage works, the StormTrap™ detention system was an ideal fit for the project. About 30 units of the storm water system were delivered to the site each day. Each piece took 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.

Design loads were in accordance with AS 5100.2-2004 – Bridge Design Code. The StormTrap™ detention system also provided a fully trafficable solution for the project. With most units installed beneath hospital access roads and car parks, the managing contractor was able to fully maximise the site for vehicular traffic and storage during construction, even before the finished surface was completed.