



FLINDERS MEDICAL CENTRE – NEW SOUTH WING

IMAGE

Flinders Medical Centre – New South Wing
5 Star Green Star - Healthcare Design &
As Built v1 Certified rating

PROJECT DATA

Owner

SA Health

Location

Flinders Drive, Bedford Park
Adelaide, South Australia

Size

A four level extension to existing hospital,
adding 4,374m² of extra gross floor area
and 37 maternal health beds

Cost

\$29 million

PROJECT TEAM

Architect and Interior Design

Woodhead

Engineering Services and ESD

AECOM

Structural and Civil Engineering

Aurecon

Builder

Boulderstone

Client

Department of Transport, Energy and
Infrastructure

The project at a glance:

- ▶ 5 Star Green Star – Healthcare v1 rating
- ▶ First health facility in Australia to achieve certification under the Green Star - Healthcare v1 rating tool
- ▶ Compared to an equivalent benchmark building, energy consumption is 42 per cent less, energy costs are \$400,000 less and water consumption is 20 per cent less
- ▶ Site wide CO₂ emissions reduced by 4,160 tonnes equivalent to taking 810 cars off the road for an entire year.

green building council australia



Healthcare As Built v1 2012

green building council australia



Healthcare Design v1 2011

Babies born at the New South Wing extension of Flinders Medical Centre (FMC) are getting a 'green' start in life.

The new extension, rated 5 Star Green Star – Healthcare v1, houses FMC's women's health services and has been designed to deliver high quality patient care with a minimal environmental footprint. The New South Wing provides 12 birthing and delivery rooms and flexibility to expand FMC's post-natal capacity by 31 inpatient beds, giving even more women the chance to deliver in a healthier, green environment.

According to Frank Zotti, Redevelopment Project Manager for FMC, the new facility has proved to be extremely popular since being commissioned in late 2009. "We've delivered 253 more babies in the new unit this year (2010/11), a nine per cent increase on the previous year," he says. The numbers are positive proof of the community's support for hospitals that provide high-quality care for patients and the environment, with improved patient recovery rates.

Environmental features in the facility include a 286 panel solar hot water system, a displacement air-conditioning system that allows individual temperature control in patients' rooms, and specified low-volatile organic compound (VOC) paints, adhesives and floor coverings for the entire project. Together with access to external views and a design which provides good levels of natural light, the extension offers a light-filled, airy and stress-reducing hospital environment for patients and staff alike.

Speaking at the opening of the new facility, South Australian Health Minister, John Hill, said that "New South Wing's designers have risen to the challenge and built a terrific facility which places patients and the environment front and centre."

Kriston Symons, project team leader for AECOM, says it just seemed 'common sense' for the project to focus on both health and environmental outcomes.

"There is a large amount of evidence showing that patient recovery rates improve when you provide high levels of Indoor Environment Quality (IEQ) such as access to natural light," he says.

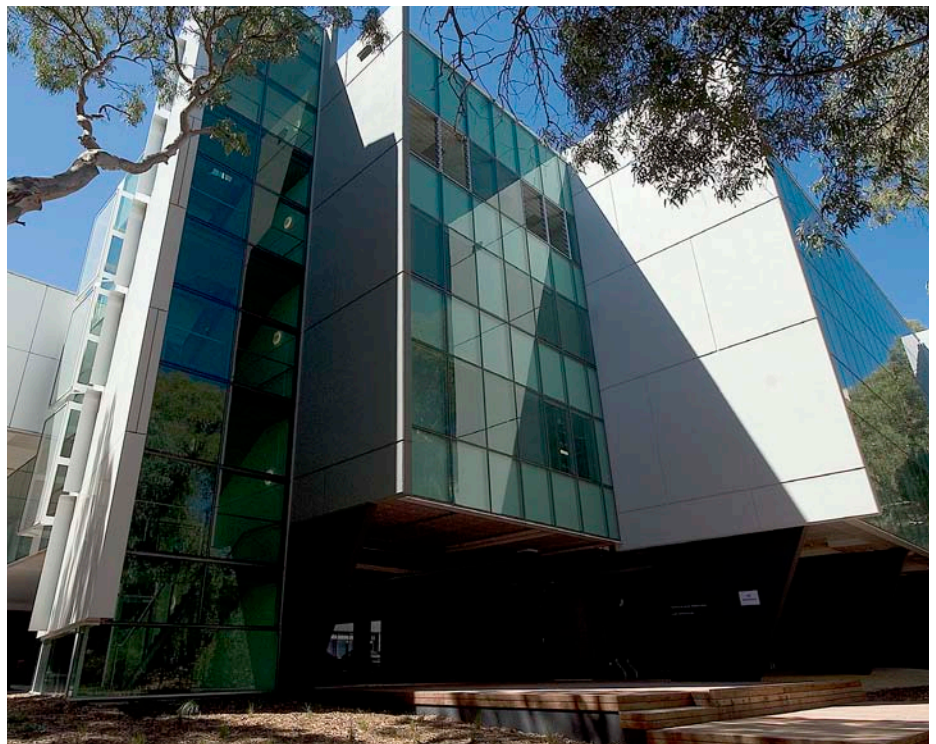
A range of studies support the idea that green hospitals are good for the environment and good for patients. A study at the Mackenzie Health Sciences Centre in Canada, for instance, found that depressed patients in sunny rooms recovered 15 per cent faster than those in darker rooms. Another study at Bronson Methodist Hospital in Michigan linked green design principles such as improved ventilation, natural light and a connection to nature with an 11 per cent reduction in secondary infections and a decrease in nursing turnover rates.

"Many of the initiatives you see in New South Wing are good practice and should be incorporated into healthcare projects as a matter of course, starting with passive design principles of building orientation, form, shading and insulation," Symons argues.

Energy simulations performed during the design predicted a 43 per cent energy saving against a benchmark building. The actual performance of the New South Wing has shown strong correlation with the energy simulation, with the New South Wing being 42 per cent more efficient than the overall hospital benchmark.

The overwhelmingly positive community and staff response to the new Green Star-certified facility has also given Frank Zotti confidence that other benefits such as increased staff retention, staff productivity and improved patient recovery rates will be realised over time. "Ultimately, we chose Green Star because it provides official recognition, and allowed our achievements to be independently assessed and benchmarked."

For other teams considering Green Star, Zotti offers some straight-forward advice: "The rewards are worth the effort."



WHAT THE AUSGRID LEARNING CENTRE ACHIEVED:

MANAGEMENT

A sustainable procurement guide was developed by the project team to help Flinders Medical Centre make smart and sustainable purchasing decisions, and also earned the project a credit under the Management category. SA Health has since used the guide on other health projects, ensuring that the sustainability lessons learnt at New South Wing are spread across the state.

INDOOR ENVIRONMENT QUALITY (IEQ)

New South Wing was awarded IEQ credits for a range of features, including low-VOC paints, adhesives and sealants, external views and access to natural light, as well as independent temperature control of patient rooms.

“Our philosophy was to minimise the environmental footprint of the project and create a healthy environment for patients, visitors and staff,” Kriston Symons explains. “With this in mind, the extensive evidence connecting good IEQ to faster recovery rates and improved staff and patient health made IEQ credits a natural focus for the project.”

The attention to clean air and good IEQ has paid off with more women than ever before choosing to deliver at the facility. Since the new wing opened, births at FMC have risen to 3,012 in 2010-2011 (up from 2,761 in 2008-2009), an increase of almost 10 per cent, suggesting faster recovery times and strong community support for FMC’s green and healthy vision.

ENERGY

A 286 panel solar hot water system was installed to provide hot water across the entire FMC campus. This earned the New South Wing credits under the Energy category and has helped reduce energy costs by \$400,000 per year.

Other energy-saving measures include a zoned air-conditioning system that delivers cooling and heating directly to where it is needed using the energy-efficient Shaw Method. Developed in Australia, the method decouples humidity and temperature loads to prevent overcooling and subsequent reheating which occurs in conventional air-conditioning systems, halving energy consumption.

A concurrent upgrade of the central plant to serve the New South Wing saw the installation of a new, energy-efficient central cooling plant, which resulted in no net increase in carbon emissions from the construction of the new building. Overall, site-wide CO₂ emissions have been reduced by approximately 4,160 tonnes, equivalent to taking 810 cars off the road for a whole year.

WATER

South Australia’s long standing drought made minimising water use a priority. By installing extensive rainwater harvesting that provides water for urinals and toilets, as well as a water-efficient heat rejection system, FMC has reduced water consumption by an estimated 20 per cent in the new wing.

