

DID YOU KNOW . . .

Health is a major sector focus for Wood & Grieve Engineers (WGE). Nationally the team has consistently billed over \$9m annually in health sector fees over the past 5 years.

Few sectors require as much specialist knowledge as the health sector demands. WGE have worked on many major hospital developments in Australia over the last decade.

YOU MAY KNOW SOME OF OUR WORK

Fiona Stanley Hospital (WA) \$2 Billion

- ▶ The largest building project ever undertaken by the WA State Government.
- ▶ The major tertiary hospital in the south metropolitan area of Perth providing 783 beds including a 140-bed \$225.7m State rehabilitation service.
- ▶ WGE provided services that contributed to this hospital being one of Australia's most technologically advanced hospitals.
- ▶ The hospital truly represents a world class medical, research and education facility that will sustain generations to come.



Victorian Comprehensive Cancer Centre (VIC) \$1 Billion

- ▶ Will be the new home for the Peter MacCallum Cancer Centre.
- ▶ Will provide space for the University of Melbourne cancer research laboratories as well as accommodation for cancer patients and researchers.
- ▶ Provides dedicated space to house over 1,200 dedicated cancer researchers.
- ▶ Embraces the latest available technologies to drive cancer education and training.



St Stephen's Hospital Redevelopment (QLD) \$83 Million

- ▶ The first digital hospital in Australia, operating as a paperless hospital.
- ▶ Being a digital hospital the engineering systems provided by WGE such as power supplies and air conditioning were critical elements of the design.
- ▶ Utilised the latest in building management technology, fully documenting the project in REVIT allowing for clash detection and coordination between services.



Public Hospitals for Health Infrastructure (NSW)

WGE has successfully provided engineering services on the following Health Infrastructure projects:

- | | |
|-----------------------------------|--------------------------------------|
| ▶ Port Macquarie Hospital, \$110m | Electrical, ICT and Security |
| ▶ Lismore Base Hospital, \$80m | Electrical and ICT |
| ▶ Parkes Hospital, \$80m | Electrical and ICT |
| ▶ Forbes Hospital, \$47m | Electrical, ICT and Security |
| ▶ RPA NW Precinct, \$80m | Electrical and ICT |
| ▶ Wagga Wagga Health Services | Watching Brief (all services) |
| ▶ Dubbo Hospital, \$80m | Mechanical, Medical Gasses and Lifts |
| ▶ Campbelltown Hospital, \$139m | Electrical, ICT and Security |

SO WHY ARE CLIENTS CHOOSING WGE?

We are experts at minimising downtime

Upgrading, amending or expanding health facilities within a functioning hospital takes skill, foresight and innovation. Undertaking such a task is often depicted by the analogy of conducting open heart surgery, as like the heart, an existing hospital simply cannot stop.

WGE specialist health engineers understand why and how to achieve the desired construction goal with minimal disruptions to the working hospital. They understand that minimising downtime and construction impact on the existing hospital is a mandatory requirement. Recent engineering 'heart surgeries' the team worked on include:

Rockingham General Hospital Redevelopment

- ▶ This 18 hectare hospital campus underwent a \$100m redevelopment which has transformed it from a 71 bed secondary hospital to a 228 bed general hospital.
- ▶ All upgrades, including extensive electrical works such as the complete upgrade of the site power supply from low to high voltage and the installation of three new 1 MVA transformers and two diesel generators, were all completed with minimal disruption to the functioning hospital.

The Queen Elizabeth II Medical Centre Central Energy Plant (CEP)

- ▶ This \$226m project is the largest of its kind in Australia and was completed within the confines of a fully functional hospital site- a definite challenge for all involved.
- ▶ Relocated the Queen Elizabeth II CEP to the rear of the QEII Medical Centre site forcing the incorporation of an extended service tunnel to connect existing infrastructure.
- ▶ The existing CEP had to be kept operational during the construction of the new facilities and necessitated a meticulously planned construction, integrations and change-over.

The cut-over from the old to the new CEP was implemented without any significant disruption to the services on the QEII MC site and required only minor tuning to fully meet expectations. This is considered to be a major success and testament to the detail applied to the design and implementation of the works.

John Fullerton, North Metropolitan Health Service | Project: QEII Central Energy Plant

We acknowledge the clinical function of the facility

Designing a hospital from a green field site requires the consultant to think further than the initial clinical needs of the facility. The hospital needs to be designed to ensure that:

- ▶ Maintenance and other service upgrades will have minimal disruptive effect on patients and cause minimal mess.
- ▶ Infection control has been appropriately incorporated.
- ▶ Future proofing for potential changes has been considered.
- ▶ The facility has been designed to avoid an 'institutional feel'.

A WGE health expert knows to consider the above at initial design phase, enabling the hospital to successfully service a community for generations. Recent green field projects the WGE team have worked on include WAs Fiona Stanley Hospital, the Victorian Comprehensive Cancer Centre, NSW's Parkes Hospital and RPA NW Precinct.

We harness innovation

The trick to innovation in a health facility is to keep it simple and use common sense. Innovation should be used to support minimising facility downtime, clinical maintenance, infection control and future proofing.

Embracing technology and using engineering techniques that have not been commonly used in the health sector will achieve these goals. Recent innovative techniques employed by the WGE health experts include:

- ▶ Utilising consolidation points and cross connect design solutions within the communication infrastructure to facilitate improved maintainability and future proofing – Fiona Stanley Hospital.
- ▶ Fully documenting the project in REVIT, allowing for clash detection and coordination between services, hydraulics and structure, which was particularly useful in coordinating the in ground services trench running the full length of the site from the central energy plant – St Stephen's Hospital Redevelopment.
- ▶ Vast industry experience in 'uptime critical' facilities such as on-site IT/communication/data hall rooms. WGE utilises the latest in data hall topology and cooling to bring cost effective and innovative solutions to hospitals.
- ▶ Bespoke lighting solutions to create a distinct look to the facility as well as to improve the patient comfort and environment- Fiona Stanley Hospital.

We understand time & budget constraints

In today's market project programs and budgets are under immense pressure. Time pressure through the design and build phases are expected as they result in less time on site and ultimately less cost. WGE are aware of these pressures and have the experience needed to understand the issues relating to constructability and cost.

'WGE's fastidious review resulted in the identification of multiple engineering deficiencies and they made further recommendations which not only brought the documentation into compliance with Australia Standards, it eliminated expensive and unproved designs from the initial tender which in turn resulted in savings to the project of several hundreds of thousands of dollars.'

John S. Fox, MdEquity Pty Ltd
Hospital for Specialist Surgery



WHAT YOU WANT TO KNOW ABOUT US

At WGE we are passionate about delivering strong and proactive engineering services to the health sector. We provide innovative best practice solutions that reflect current and future trends, using our advanced BIM capabilities to go the extra mile.

As a national firm we are involved in some of Australia's most technologically advanced health care projects. Our passion for healthcare facilities is not driven by the size of the project, but the ability of our team to be at the forefront of the health sector pushing boundaries and delivering exceptional service to our clients.

Our team of experienced engineers are leaders in the health sector and collaborate with clients to drive cost effective and efficient solutions for all projects.

We are committed to ensuring the projects we work on are something that both our clients and we are very proud of at the end of the journey.

To us, it's more than just work

'Within a very short time, they demonstrated a comprehensive grasp of the concepts of the proposed hospital design, demonstrated their aptitude by challenging, questioning and offering positive solutions to the proposed design at that stage was essential for future decision making.

John S. Fox, MdEquity Pty Ltd
Hospital for Specialist Surgery



WHO SHOULD YOU CONTACT?

Brisbane office:



Andrew Bell
Brisbane mechanical section manager
E: andrew.bell@wge.com.au
T: +61 7 3811 4503



Ashley Holm
Brisbane electrical section manager
E: ashley.holm@wge.com.au
T: +61 7 3811 4504

Perth office:



Matthew Quin
Perth electrical project engineer
E: matthew.quin@wge.com.au
T: +61 8 6222 7029



Bruce van Rooyen
Perth mechanical project engineer
E: bruce.van.rooyen@wge.com.au
T: +61 8 6222 7018

Melbourne office:



Angus Grant
Melbourne mechanical section manager
E: angus.grant@wge.com.au
T: +61 3 8554 7008



Anthony Squire
Melbourne electrical project engineer
E: anthony.squire@wge.com.au
T: +61 3 8554 7012

Sydney office:



Rowan Barwood
Sydney electrical section manager
E: rowan.barwood@wge.com.au
T: +61 2 8484 7023



Joseph Walsh
Sydney office manager, mechanical engineer
E: joseph.walsh@wge.com.au
T: +61 2 8484 7017



wge.com.au