



To us, it's more than just work



Wood & Grieve Engineers - Aged Care & Health

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**Wood & Grieve Engineers
Brisbane team - June, 2015**

10 years in Brisbane

Thank you for the opportunity to submit our capability statement for your review.

Wood & Grieve Engineers (WGE) is built on a strong culture of exceptional customer service and best-practice technical engineering solutions.

Our high performance business model is dedicated to maintaining a unique employee culture that empowers our teams to deliver highly personalised, commercially viable and robust solutions.

Our Brisbane office offers the following in-house engineering capabilities:

Acoustics, Civil, Electrical, Fire Protection, Fire Engineering, Hydraulics, Mechanical, Structural, Sustainability / Green Star / NABERS / Section J – DTS, JV3 & NatHERS / Predicted Energy Modelling and Vertical Transportation.

2015

Our Electrical & Mechanical sections have a combined total of 7 senior project engineers, and a further 7 support engineers making our building services engineering team one of the largest engineering teams in Brisbane!

2015

Acoustics section is launched in Brisbane.
At June 2015 the office is at 44 people, with the team growing by over 25% in the last 12 months!

2014

Work starts on Hummingbird House - Queensland's only children's hospice - and a charity close to our hearts

2014

Fire Engineering services is launched in Brisbane
Brisbane office won the Growler Airborne Electronic Attack Capability Facilities worth approximately \$300 million

2012

Brisbane office won the St Stephen's Hospital project worth \$93 million

2010

Brisbane office won the Sunshine Coast Hospital project worth \$2 billion. The Structural section is launched in Brisbane.

2008

WGE Brisbane's Civil section is launched. Mike Prior moves to Brisbane to head up the new Civil team.

2007

The office rapidly expands over 2 years to 19 people in 2007.

2005

WGE opens the Brisbane office with Johan Sadie as the leader. Brisbane Electrical is the first section, with Hydraulics and Mechanical a few months later.

10 amazing years of growth in Brisbane





Our company is our people

Wood & Grieve Engineers (WGE) is an award-winning Australian engineering consultancy built on a strong culture of exceptional client service and best-practice technical engineering solutions.

We provide innovative multi-discipline engineering services to both private and government clients in land development and all sectors within the commercial property development markets. Our clients can access engineering specialists in all disciplines from civil and electrical to acoustics and sustainability.

Here at WGE our people are what truly sets us apart. Our high performance business model is dedicated to maintaining a unique employee culture that empowers our teams to deliver highly personalised, commercially viable and robust solutions.

It is this unique culture that drives our teams to go the extra mile and has seen Wood & Grieve achieve:

- “Best Employer” accreditation in the prestigious Aon Hewitt Best Employer survey in 2012, 2013, 2014, 2015.
- A triple win at the 2015 Financial Review Client Choice Awards for Best Consulting Engineering Firm (revenue \$50m-\$200m), Best WA Firm and Most Client Focused Consulting Engineer (Grant Holman)

The experience and dedication of our large engineering team is well known in the property industry and with over 500 staff throughout Australia, we have the capability and track record to deliver beyond client expectations on any project.

WGE by numbers

54

The number of years since opening our doors

8

Offices across Australia & internationally

50% +

Of our executive directors started as graduates

70%

Of our 55 principals have been with us for more than 8 years

Over 500

People - we grew by over 30% in the last 3 years

4th Consecutive year

We have been accredited an Aon Hewitt Best Employer



Why choose WGE for your next aged care project?

We believe that the key factor in living in a service-provided aged-care village, whether it's for independent living or high-dependency living, is that it's not a 'home away from home'—it's home.

Retirement villages are vital to our Australian communities. Care-centred residential villages and communities for retirees and elderly people brings a diversity of housing that is ideal for many ageing Australians.

As we see it, retirement villages which promote a better quality of living for our older generation creates a community where residents feel a sense of belonging and can continue to live independently for as long as they are able. Living in a residential aged care community means continuing an independent lifestyle and remaining active in the community, while knowing that support and professional care is never too far away.

At Wood & Grieve Engineers, we design buildings, of all shapes and sizes. That's what we do best. Whether it's a sports stadium for 80,000 people or a one bed-room apartment for a retired couple, we design functional buildings that are able to meet the needs of the people who use them.

We appreciate the unique design requirements of creating a safe and supported environment for the elderly. Our experience leads us to:

- factor in design elements addressing accessibility, comfort and communication. For higher dependency needs, we integrate support and control systems so that both residents and staff feel supported.
- look at future expansion and adaptability opportunities and consider the use of alternative building materials which are environmentally responsible while still achieving compliance requirements and architectural vision.
- promote sustainable initiatives like bio gardens, capturing and re-using roof water, solar power and implement efficient energy-saving devices for lighting and air-cooling/heating requirements; saving our clients money that can be better spent elsewhere.
- ensure that important primary infrastructure is always available; for instance, supplying secondary backup power supply or an uninterruptible Power Supply (UPS), ensuring that power is always available for high care areas.

Our goal is to ensure that the innovative systems and technology we use will complement the users so that they feel comfortable and happy in their environment, without even knowing the engineering that underlies it.



Aged care projects (Brisbane office)



The Village at Yeronga Buildings 1 - 5

Completion: Current (Commenced 2012)

Project description:

WGE have been involved in the design of The Village at Yeronga for a number of years. This resort style retirement village includes a central kitchen and dining area, bar, cinema, swimming pool, library, media rooms, hairdressing salon and gift shop.

The design scope for Stage 1 of the retirement village included building 1 and 2, consisting of 91 two and three bedroom units each with its own basement car park.

Stage 2 comprised building 3 which consisted of 36, two and three bedroom units including basement car parking. The building required some design modifications so that the building could be located above the January 2011 flood level.

Building 4 is a 5 storey building consisting of 60 aged care independent living units. WGE documented the Mechanical, Hydraulic and part Electrical services in Revit software to ensure a fully co-ordinated services design including, but not limited to, drainage, water and fire layouts, mechanical air-conditioning & ventilation layouts and lift services.

Services provided: Mechanical, Electrical, Hydraulic, Fire Protection, Acoustics and Sustainability.



Regis, Chelmer

Project Value: \$20 million

Completion: 2017

Project description:

The Regis project in Chelmer is a new project that incorporates state of the art design to create a warm and inviting environment for residents whilst ensuring the highest standards of care. The \$20 million project involves construction of a new four-level building along with renovation of the existing mansion allowing for 120 low and high care residents, due for completion in 2017. Regis Chelmer includes a café, cinema, hairdressing salon, eZone and landscaped gardens for residents.

The facility has been designed with a number of features that ensure ongoing costs are manageable for future residents such as:

- Heat recovery air conditioning and constant pressure exhaust systems designed to deliver energy savings
- A plumbing system has been designed to minimise service interruptions during routine maintenance

Project challenges included:

- The design of two internal courtyards to include effective stormwater drainage systems whilst maintaining wheelchair-friendly access to the space
- To minimise the risk of stormwater entering internal spaces, a graded floor and two independent drainage systems were implemented to cope with Queensland's heavy rain storms

Utilising digital engineering: WGE provided BIM services to ensure coordination between services and improved communication with contractors and local authorities throughout a complex construction process. Additionally by utilising 3D design techniques our team was able to crystallise the project design intent and develop the construction methodology whilst identifying and minimising any cost or programme risks.

Services provided: Structural, Civil, Mechanical, Electrical, Hydraulic, Fire Protection, Fire Engineering, Acoustics and Sustainability



The Village at Redcliffe, west and east areas

Completion: 2012

Project description:

WGE were engaged to design, document and provide construction phase services for the internal building and site services for this integrated Retirement Village.

WEST AREA – 42 Independent Living Villas.

EAST AREA – 66 Independent Living Villas and a Community Centre.

Services provided: Mechanical, Electrical and Hydraulic



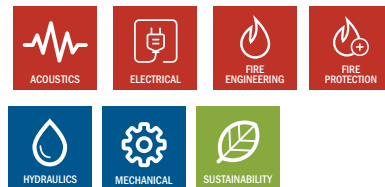
The Village at Coorparoo, Building 5A & 5B

Project value: \$25 million

Completion: 2016

Project description: WGE are currently engaged to design, document and provide construction phase services for the two new multi-unit buildings at The Village, Coorparoo. The buildings will comprise of 28 units and 49 units & Ancillary Community Facilities.

Services provided: Mechanical, Electrical, Hydraulic, Fire Protection, Fire Engineering, Acoustics and Sustainability.





Other health related facilities (Brisbane office)



St Stephen's Hospital Redevelopment

Project value: \$94 Million

Completion: 2015

Project description:

The St Stephen's Hospital redevelopment is located in Hervey Bay and is part of the Uniting Care Health Group. The Australian Federal Government has contributed funds as part of this project to enable it to be developed as the first digital hospital in Australia, operating as a paperless hospital.

WGE were the electrical, mechanical and vertical transportation consultants for this project. Being a digital hospital, the engineering systems such as power supplies and air conditioning were critical elements of the design. The hub of the digital hospital is located within a data centre on site which required redundant air conditioning systems and power supplies to be able to provide full functionality to the site even during power outages from the power authority. This was achieved via the provision of two standby diesel generators and two UPS units with n + n redundancy. Other system resilience measures include the reticulation of duplicated fibre optic cabling between communications racks via redundant paths throughout the facility and provisions for future stages to minimise disruptions to the facility during future construction.

This project was fully documented 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.

Stage 1 of the redevelopment includes the expansion of the existing surgical theatres to a total of 5 theatres, a three level inpatient unit consisting of 96 beds, admissions and administration offices, outpatient medical suites, CSSD and back of house facilities, and the central energy facility. Future stages include expansion of the inpatient unit to a total of 180 beds and a further three surgical theatres.

Services provided: Electrical, Mechanical and Vertical Transportation.



The Wesley and St Andrews War Memorial Hospitals

Project Value: **Approximately \$35 million**
Completion: **2017**

Project Description

Wood & Grieve Engineers have been engaged by UnitingCare Health for a number of recent projects at The Wesley Hospital and St Andrews War Memorial Hospital.

High Level Assessment and Gap Analysis

In 2012, Wood & Grieve Engineers carried out a high level assessment of the existing electrical and mechanical infrastructure. A review of the existing services provided advice as to the suitability of the new proposed additional 3 theatres and refurbished existing 4 theatres in The Wesley Hospital. Our review contributed to the budget associated with the electrical and mechanical infrastructure to be determined.

In 2015, we were again engaged to carry out a site investigations of The Wesley Hospital to assess the Mechanical, Electrical, Hydraulic and Fire Protection services and provide a report of the findings with costs for remediation and associated programme. This was part of a "Gap Analysis" exercise, to evaluate the current condition, economical life, adequacy and compliance of the equipment and systems associated with the Mechanical, Electrical, Hydraulic and Fire Protection services of the Hospital. Our investigations covered levels 1- 4 of The Wesley Hospital; covering the following areas: Dialysis, Caesarean theatre, birthing suites, IVF theatre, CCT Suite, CSSD department, Sterile store, Recovery area, Operating Theatres 1 to 7 in original hospital area, Operating Theatres 1 to 4 in Western Annex area and the plantrooms serving the areas.

Student Medical facilities

The upgrade to incorporate Medical Students facilities in each hospital has involved converting existing areas of each hospital to provide a student accommodation facility and varied learning areas including practical clinical-skills training, computer laboratory, traditional class room style teaching combined with sophisticated technology such as, wireless capability, projector screens and/or interactive whiteboards and microphone capability utilised for meetings.



The Wesley and St Andrews War Memorial Hospitals (continued)

The Wesley Hospital - Operating Theatre Expansion

This involved the construction of three new Operating Theatres (OT) 15 to 17 and the complete replacement of OTs 11 to 14 plus ancillary rooms. OT 17 is a hybrid theatre complete with a ceiling mounted CCT Imaging Unit. New Air Conditioning Plant Rooms have been constructed above the 3 new OT's 15 to 17 and the existing 25 year old chilled water plant has been replaced with a new larger system. This project also involved an upgrade to the back up generator, UPS and associated infrastructure.

St Andrew's War Memorial Hospital - Operating Theatre

St Andrew's War Memorial Hospital Operating Theatre upgrade involved converting the existing Operating Theatre 10 to a Hybrid Theatre. The installation involved a ceiling mounted imaging unit which in turn required the replacement of all ceiling mounted services and lights. The existing ceiling was replaced in its entirety. The air conditioning and electrical systems were upgraded to provide the additional capacity to the theatre plus imaging control and equipment rooms. Existing Operating Theatre 13 has been enlarged and the existing services and lighting pendants upgraded to suite.

Services Provided: Electrical & Mechanical, Hydraulic and Fire Protection services.

"I would like to express my appreciation for WGE's assistance and professionalism on this project. In particular, I would like to thank Andrew Bell and Ashley Holm for their positive and pro-active attitude during the entire project duration. Their ability to resolve problems quickly and pragmatically, to the satisfaction of the relevant stakeholders was greatly appreciated and is a contributing factor to the successful outcome of the project. Throughout the project, their level of commitment, communication and ability were extremely high, acting with the utmost professionalism and integrity."

Lavinia Buckley, Calcutta Group (formerly with Aurecon Australia Pty Ltd)



Sunshine Coast University Hospital

Project value: \$1.8 billion

Completion: 2017

Project description:

The new Sunshine Coast University Hospital Project is Queensland's first ever hospital delivered as a Public Private Partnership (PPP) project. The hospital precinct incorporates the construction of an industry leading 738 bed public hospital with an emphasis on research and learning, a 250 bed private hospital, the duplication of Kawana Way and the construction of surrounding supporting infrastructure.

The development has an overall expected project value of \$1.8 billion, with the private hospital construction completed in 2013, and the public hospital expected to be completed by the end of 2017.

Their background expertise in the engineering health sector, combined with their industry award winning client service reputation, positioned the Brisbane WGE civil and structural teams as ideal members of the State's senior technical advisors for the project.

Upon completion in 2016, WGE's involvement will span some 6 years of specialist technical advice from master planning through to construction phase auditing, to ensure the successful delivery of this iconic Queensland development

In the past 2 years, as part of this role:

- Assisted Queensland Health to establish the site's external services constraints.
- Briefed and coordinated with the stakeholders delivering the external municipal services to ensure that the proposed hospital site demands were catered for.
- Provided input into the site's masterplanned layout in terms of sewer, water, stormwater, roads, car parking, earthworks and access, how these integrated internally, and how they interfaced with external infrastructure.
- Established the technical Civil and Structural portions of the PPP Tender Brief.
- Reviewed and assessed all bid documents relating to the tenderer's proposed servicing arrangements.
- Provided detailed reports on the pros and cons of all bidder's proposals with an acute focus on risk allocation and future servicing flexibility.
- Undertaken detailed reviews of all civil and structural related design drawings and project reports.
- Undertaken site audit inspections throughout construction phase (2012 – 2016).
- Provide Queensland Health with pro-active risk based technical advice as part of their senior advisory panel.

Services provided: Structural and Civil (technical advisory role to Queensland Health)



"Wood & Grieve are providing a consistently high quality of engineering and technical advice to the project. The complexity of the project is matched by their expertise across a range of engineering disciplines.

Their pro-active and professional approach makes Wood & Grieve a pleasure to deal with..."

Roger Simons, Turner & Townsend Pty Ltd



QEII Jubilee Hospital - Emergency Department upgrade

Project value: \$40 million

Completion: 2014

Project description

Wood & Grieve Engineers was appointed by Project Services QLD as the hydraulic services consultants for the Stage 2 works for the Emergency Department (ED) Project at the QEII Hospital. We are currently providing Construction Phase Services for mechanical and electrical services.

The project consists of an upgrade to the ED with the addition of 11 fast-track bays and an increased capacity for short stay patients requiring observation. As part of the upgrade a new transit lounge was included. The Endoscopy Unit is located on the first level and has been designed to function independently of the main hospital. The Endoscopy Unit comprises of two endoscopy procedure rooms, pre-procedure and post-operative recovery areas, outpatient consult rooms, reception and admissions area, ensuites with change rooms and procedure support areas.

Stage 1 works were completed in early 2012, which included the new palliative-care unit. The works entailed the refurbishment of a portion of the existing third floor ward area of the existing floor space into 4 x single bed rooms and 3 x 2-bed rooms giving a total of 10 new palliative-care beds; one single room was designed for bariatric patients.

Services provided: Hydraulic- All phases

Mechanical and Electrical- Construction Phase Services



QEII Jubilee Hospital: UQ Training Centre - Inspection & Report and Contract Administration

Report completion: January 2014

Project description: Wood & Grieve Engineers carried out an inspection and report of the QEII Jubilee Hospital existing capacities and remaining capacity for future expansions and modifications. The aim of the report was to calculate the impact of the proposed UQ QEII Training Centre on existing services infrastructure, identifying existing capacities and the remaining capacity for future modifications/expansion projects. We are currently engaged for the Contract Administration phase of this project.

Services provided: Mechanical, Electrical and Hydraulic

Site Investigation Works (Backlog Maintenance Remediation Programme)

Report completion: August 2014

Project description: As part of the Backlog Maintenance Remediation programme, this commission involved our engineering team to assess the current condition, economical life and adequacy and compliance of the equipment and systems associated with the Mechanical, Electrical and Fire services of the QEII Jubilee Hospital. Our report provided advice on each service's adequacy and identified changes to be carried out in order to comply with the current Australian Standards. The project required a visual inspection of the hospital, Review of as-built documentation, drawings, original design documentation, and previous condition reports.

Services provided: Mechanical, Electrical (Vertical
Transportation) and Fire Services

Infrastructure Upgrade Investigation and Report - Bathroom Refurbishment

Report completed: November 2014

Project description: Investigation and report of the existing QEII Bathrooms in the original clinical building. Our engineering team provided a Report for contribution to the Project Definition Report.

Services provided: Structural, Mechanical, Electrical & Hydraulic Engineering Services

Investigation and minor works Window Upgrade Project

Completion: December 2014

Project description: Minor works to repair the shop front window at the QEII Jubilee Hospital and also investigate the cracked concrete lintel in the Level 3 Courtyard. Our structural engineer, Martin O'Connor was the lead engineer for this project. The programme was carried out over 13 weeks.

Services provided: Structural

Backlog Maintenance Remediation Programme

Project value: \$10 million

Completion: 2016

Project description: We are engaged to carry out the various works for the refurbishment to the QEII Hospital.

Services provided: Structural, Mechanical, Electrical & Hydraulic Engineering Services



Ronald McDonald House

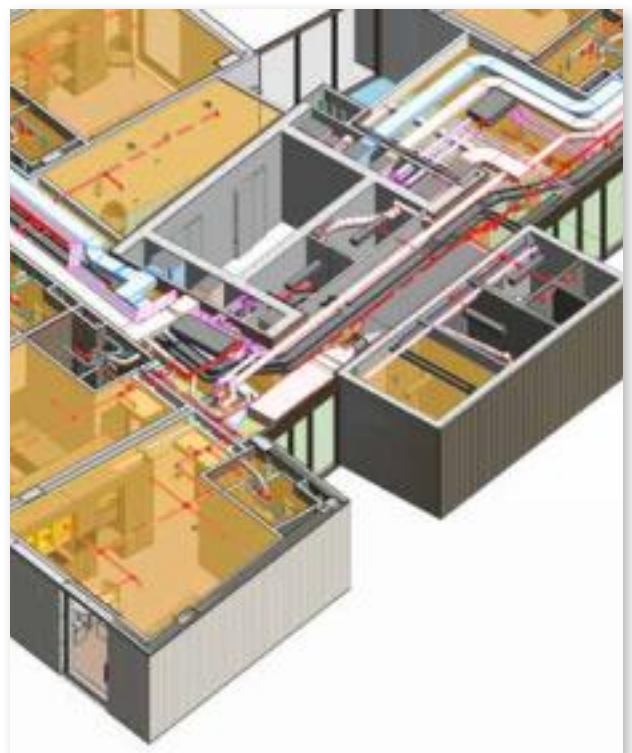
Project value: \$30 million

Completion: 2016

Project description:

This new health care facility and accommodation will provide accommodation for families and patients in a complex moment of their lives. The project will consist of a 15 storey building with in-patient accommodation and related services. The facility will include a basement car park, computer lunges, outdoor play areas, roof garden gym, etc.

Services provided: Mechanical, Electrical, Hydraulic, Fire, Sustainability and Acoustics.





“On behalf of the families, we are so thankful that your involvement gives everyone involved in the process an absolute confidence in the construction process to deliver Queensland’s only children’s hospice.”

**Paul Quilliam, General Manager/
Cofounder, Hummingbird House**

Hummingbird House

Project value: \$8 million

Completion: Due for completion November 2015

Project description:

It’s estimated that 3700 children in QLD are affected by a life-limiting condition, and they need the ability to access medical facilities and 24/7 hospice care in a special place like Hummingbird House.

When complete, Hummingbird House will be the only children’s hospice in Queensland and the third in Australia. In Feb 2014 the project celebrated with a sod turning event attended by the Prime Minister Tony Abbot.

Wood & Grieve’s engineering team is providing a building design that serves a dual purpose in offering a welcoming child-friendly home environment as well as a high level of pediatric care and safety.

The design team have included sustainable and cost effective features such energy-saving air conditioning system to accommodate 100% natural ventilation where necessary (i.e. when the doors are open). Further running cost reductions are achieved with the solar PV and solar hot water systems as well as LED lighting.

Fire design needed to take into account the mixed building classification as considered by the BCA and the Performance Based design achieved a high standard of fire safety for occupants across the various building uses.

Services provided: Electrical, Mechanical, Hydraulics, Fire Protection, Fire Engineering, Vertical Transportation.





Caboolture Hospital - 32 bed ward refurbishment

Project Value: Approximately \$8 million

Completion: 2016

Project description

In conjunction with Peddle Thorp, Wood & Grieve Engineers are working with Metro North Hospital and Health Service's (MNHHS) and the Caboolture/Kilcoy Building Engineering and Maintenance Services (BEMS) to achieve a new 32 adult inpatient ward on the third level of the main hospital building.

To achieve this, the existing level 3 Administration area is to be decanted into demountable buildings alongside the hospital building, adjacent to the existing Education and Skills Centre. Wood & Grieve Engineers provided design services for the establishment of services, fit out and covered walkway between the demountable structures and along the Education and Skills Centre.

Progress on the ward refurbishment is planned to commence construction later this year is expected to be completed in late 2016. Wood & Grieve's aim has been to deliver an effective design which does not disrupt other areas of the hospital and, is flexible enough for potential future developments. We are working toward completing the project on-time and within approved funding.

Once completed, Caboolture Hospital will be able to treat an additional 2,500 adult patients each year.

Services provided: Mechanical, Electrical, Hydraulic, Fire Services and Fire Engineering.



Mt Isa Hospital - Master Planning Report and A & B Blocks Redevelopment (Stage 3)

Project Value: Approximately \$13 million

Completion: 2017

Project description

As part of the \$65.19 million Mount Isa Hospital redevelopment, \$13.2 million has been allocated to the redevelopment of the maternity unit and central sterile service department.

The WGE building services team are involved in the delivery to upgrade the operating theatre complex, central sterilising department, the Children's Ward in Block B and the refurbishment of the Maternity Ward in Block A. This redevelopment will mean that the paediatrics ward which is currently temporarily located in Block A will return to its normal location in Block B when the new children's area is being developed.

WGE were also engaged to assist in the initial master planning for the redevelopment of Mount Isa Hospital.

Services provided: Mechanical, Electrical, and Hydraulics





North Queensland Hospital Audit

Project Value: NA
Report Completion: 2015

Project description

The project that WGE has been commissioned for comprises an infrastructure review and report of the current status of the following health services:

- Julia Creek Hospital
- McKinlay Shire Multipurpose Health Service
- Darjarra Health Clinic
- Camooweal Health Clinic
- Doomadgee Hospital and Doomadgee Community Health
- Mornington Island Primary Health Care Centre
- Burketown Health Clinic
- Karumba Primary Health Centre
- Normanton Hospital and Normanton Community Health

The aim of the project was to investigate the current status of the specified facilities in order to develop a guide for future refurbishments and to inform any work programs which might be required or undertaken in the near future.

Services provided: Structural, Mechanical, Electrical, Hydraulic and Fire Protection.



Friendly Society Hospital Bundaberg

Project Value: \$12 million
Completion: 2012

Project description

Wood and Grieve Engineers provided the hydraulic consultancy services for the Friendly Private Hospital located in Bundaberg. The hospital expansion took place over 5 stages which overlapped and included the following:

- New 24 Hour Operating Theatres (Stages 1 & 5)
- New Treatment and Consulting Rooms (Day Surgery), (Stages 2, 3, 5).
- Refurbishment of existing services and plant equipment (Stage 4)
- New East Wing comprised of a two (2) level new extension including Treatment and Consulting Rooms/offices and X-Ray facilities (Stage 3)
- New West Wing comprised of two (2) levels a brand new extension to the hospital, Ambulance Bay and Emergency facilities, Operating Theatres, Cath
- Laboratory, Plastics, ICC/CCU, Oncology, Recovery,
- Patient Treatment & Consulting, Nuclear Medicine, MRI and Plantrooms (Stage 5)

Services provided: Hydraulic



National experience in Aged Care



Affinity Village

Project value: \$6 million
Completion: 2014

Project description:

The Affinity Retirement Village and Clubhouse project comprised of the development of a quality retirement living village which included 214 independent villas, a workshop, bowling greens and a five Star Green Star rated Clubhouse.

WGE were responsible for delivery of the civil and underground power services in the early stages of development, then the electrical, hydraulic, mechanical and sustainability services for the Clubhouse. WGE team worked closely with the client and architect, taking a leading role in the preparation of the concept plans, liaising with various authorities and taking the services through the design, documentation and construction phases until the practical completion of stages 1 and 2 of the site development and the Clubhouse. Sustainability vision included:

- House types designed and located to capture light, breezes and views.
- Streets orientated to maximise solar orientation.
- Site to be planned to capture and channel overland flow.
- Pedestrian activity encouraged within pocket parks.
- Cross ventilation and security within house designs.
- Water harvesting principles within the landscape.
- Minimal use of lawn and reliance upon drought tolerant species.

WGE's sustainability team proudly worked on the clubhouse at Affinity Village to help make it the first ever Green Star rated Community Centre in Australia. Achieving a 5 star certification using the Green Building Council of Australia's Public Buildings Pilot Tool, the clubhouse is recognised as being at an "Australian Excellence" standard within the property industry.

Services provided: Civil, Mechanical, Electrical, Hydraulic, Structural, Acoustic, Underground Power, Sustainability



Glenfield and Kelso RACF, NSW

Project value: \$42 million

Project description: Spanning two sites for the Whiddon Group, these projects involve the construction of a new 160 bed residential aged care facility (RACF), basement carparking and associated facilities at Glenfield, and the construction of a RACF containing 60 beds at the Ilumba Gardens Hostel Facility at Kelso.

Services provided: Electrical, Mechanical, Hydraulic, Structural, Civil and Fire Protection



Bupa RACF, Wodonga, NSW

Project value: \$13 million

Project description: New 104 bed residential aged care facility for BUPA incorporating 54 high care beds and 60 low care beds. High care services include low care admissions, specialist services (physiotherapy, podiatry, speech therapy, optometry, dietician and beauty spa therapy).

Services provided: Hydraulic and Fire Protection



Southern Cross Care, North Turramurra, NSW

Project value: \$32 million

Project description: The establishment of a new 108 bed RACF and 24 Independent Living Units; existing buildings will be demolished, the chapel and heritage protected Huon Park House will be retained. All RACF rooms will be single occupancy each with private ensuite facilities.

Services provided: Electrical and Mechanical



Bupa RACF, Bankstown, NSW

Project value: \$19 million

Project description: New 140 bed residential aged care facility for Amity. All rooms will be single occupancy each with private ensuite facilities. Located in the Bankstown area this will be a mixed service facility, housing both 47 low care beds and 47 high care beds as well as 23 of each specifically serving as rooms for those suffering from dementia.

Services provided: Electrical and Mechanical



Homestyle Aged Care, Pt Cook, Vic

Project value: \$18 million

Project description: New fully-serviced 118 bed aged care facility for Homestyle Aged Care will set a benchmark for architectural design and functionality.

Services provided: Structural, Civil, Mechanical, Electrical, Hydraulic and Sustainability



Mercy Aged Care, Parkville, Vic

Project value: \$30 million

Project description: The Mercy Parkville Aged Care development contains the following facilities broken into two main areas: Aged Care Units (140 beds over 3 levels) and ALU's (Assisted Living Units) (52 apartments over 3 levels)

Services provided: Mechanical, Electrical, Hydraulics and Sustainability.



BlueCross Livingstone Gardens, Vic

Project value: \$51 million - Stage 1

Project description: BlueCross Community Care aged care development comprising of a four storey 218 bed, aged care facility inclusive of a day care centre and communal areas in one building, and a future connected seven storey, 74 apartments building.

Services provided: Mechanical, Electrical, Lifts, Hydraulic, Structural, Civil and Sustainability.



Southern Cross Care, Thornton Park, NSW

Project value: \$ 42 million

Project description: New 96 bed residential aged care facility for Southern Cross Care. All rooms will be single occupancy each with private ensuites facilities. The project also includes 48 Independent Living Units, chapel, community centre, café and an underground car park.

Services provided: Electrical and Mechanical



Regis Cypress Gardens, Greenmount, WA

Project value: \$7 million

Completion: 2010

Project description: Extension to the existing Aged Care Facility. The new facility includes an additional 42 low care beds; refurbishment to the high care building, general offices and extra services for hairdresser and café was also carried out.

Services provided: Electrical, Mechanical, Hydraulic, Structural, Civil and Fire Protection



Regis Lake Park Aged Care Facility

Project value: \$20.4 million

Completion: 2008

Project description: The Lake Park Aged Care Facility extended its facility significantly by adding an additional 150 bed nursing home with dementia, high care, extra services, nominal respite care and an allocation for the deaf society.

Services provided: Sustainability Concept Design study and Mechanical, Electrical, Hydraulic and Fire.



Regis Hollywood Park, WA

Project value: \$42 million

Completion: 2010

Project description: The project comprises the construction of a new two building development at Hollywood Park Aged Care Facility. The new buildings consist of :

- Building A (3 levels) : 78 bedrooms, nurses station on each level, café, lounge/dining on each level, activity, library on Ground and Level 1, sitting area on each level, Media Cinema.
- Building B (4 levels) : Basement and undercroft car parking, kitchen, laundry, staff room, 150 bedrooms, nurses station on each level, café, lounge/dining on each level, activity on each level, sitting area on each level, Media Cinema.

Services provided: Electrical, Mechanical, Hydraulic, Structural, Civil, Fire Protection and Sustainability



Green Star Thought Leaders

Promoting the health and wellbeing of aged care residents and built environments

The Green Building Council of Australia (GBCA) supports sustainable design and construction of healthcare and aged care facilities. WGE is passionate about sustainable approaches to construction and works with the GBCA to further shape the advancement of the Green Star rating system.

We work closely with aged care developers and operators to advise on Green Star initiatives particularly in the planning and design stage. There are a myriad of benefits from the incorporation of Green Star rated sustainable initiatives which include:

- Increased staff productivity
- Reduced environmental impact
- Optimal patient and resident health
- Ongoing operational cost efficiencies

Our experienced in-house sustainability team can provide thorough analysis, advice and design solutions across the Green Star process and initiatives including air quality, thermal comfort, lighting, energy efficiency, environmental and waste management, and even guidance on selection of fittings and mattresses.

When it comes to Green Star ratings we work closely with aged care clients to make the Green Star process efficient, transparent and relevant.

Wood & Grieve Engineers are leading the sustainability industry by becoming the first consultancy to be approved as a **Green Star 'Recognised Provider in energy modelling'**.

Our team worked with the Green Building Council of Australia (GBCA) to develop and drive this new initiative. Our joint aim:

'To make the Green Star process easier, faster and more consistent.'

You gain greater confidence knowing that you're working with proven Green Star experts.



What does this mean for you?

It means that if you choose Wood & Grieve Engineers to complete your next Green Star project you gain the confidence of working with an experienced and validated provider of Green Star services. This will give the entire project team more certainty surrounding the Green Star submission.

Benefits of working with a Green Star 'Recognised Provider'

Clients have greater awareness of risk factors within their project

Increased confidence in expected outcomes

Our quality control processes are tried and tested

Reduced, streamlined documentation

We have the knowledge and experience to make better decisions

"Recognised Providers are technical experts in Green Star - working with a Recognised Provider makes sense"

Romilly Madew, GBCA Chief Executive

There are up to **20 points available** in the Green Star Energy submission category. We have the robust procedures and processes in place to give us the confidence to understand exactly what your project will be eligible for.

This allows our team to focus on other value-add points to get projects the maximum first round rating.



Our services



Civil

It's more than just turning dirt. Civil engineering is one of the oldest engineering disciplines in the world and WGE have been practicing it for well over 50 years.



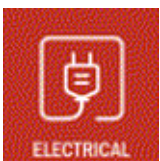
Structural

It's about your vision – we think beyond the structure. Every great design requires a great structural engineering team behind it. No matter how large, complex or unusual your project may be, the hallmarks of a great structural consultant are the ability to deliver innovative, commercially viable and highly buildable solutions.



Mechanical

It's about comfort not mechanics. We get the solution right from the outset. There really is no project too challenging or too demanding. We thrive on challenges!



Electrical

Electricity is something most of us take for granted. We don't ever really think about it, until of course, we don't have it. At WGE we think differently.



Hydraulics

Buildings are complex structures requiring the skills of many engineering disciplines. Yet there's one discipline that's vital to keeping the whole building operational and the people in that building healthy – hydraulics.



Fire Engineering

Building fires cause millions of dollars of damage each year. The two major causes are electrical fault and human error. That's why the Fire Engineering team at WGE take their job very seriously.



Acoustics

Noise in a building can seriously affect the interactions within and around that space. At work, noise can affect our productivity. At play, noise can affect our ability to unwind, rest and relax. At WGE Acoustics, noise is what we know best.



Fire Protection

We give you peace of mind. Whether you're building a football stadium, a tunnel or a commercial building, protecting people in the event of fire, is an absolute priority.



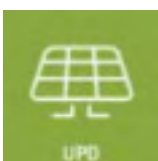
Sustainability

It's no longer an option to be sustainable, it's an expectation. That's why the companies serious about doing the best they can for the environment are turning to the WGE Sustainability team.



Vertical Transportation

Getting people from A to Z. Whether it's a lift or an escalator at a school, retail precinct, commercial building or a hospital, there's nothing our specialist VT team hasn't tackled.



Underground Power Design

It's more than just power. We're experts at telecommunications and NBN services, urban lighting, solar power lighting, power generation, infrastructure master planning and so much more.



Specialist Lighting

There's no doubt that lighting affects the ambience of a building and its surrounds. A great ambience makes for a positive experience and happy people. That's why it's important to consider the WGE Specialist Lighting team before you start work on your next project.



Property Asset Management

There are plenty of engineering consultants out there willing to give advice. But how do you know if it's the right advice or even the best advice? You look for a team with a great track record and who are highly recommended like the WGE Property Asset Management team.



Revit coordination

2006 - 2015

WGE utilising BIM
framework
We currently use Revit
2015

WGE offers a full design
studio integrating all Civil
and building services into
one building model

WGE is committed to the
benefits that BIM provides
our clients in the short-
and long- term.

We note that implementation of BIM clearly provides value, both to our clients and WGE through:

- Greater clarity for the clients on what they are getting – visual representation
- Improved spatial planning
- Reduced construction related variations due to clashes
- More competitive tender pricing due to greater design clarity
- Reduced project risk for our clients and designers

Our Brisbane recent projects include:

- **The Village at Coorparoo, building 5A**
- **The Village at Yeronga buildings 4 and 5**
- **St Stephen's Hospital Hervey Bay**
- **Robina Markethall expansion project**
- **Good Shepherd Catholic Education School**
- **Regents Lane, Woolloongabba**

Our continual consideration of integrated project delivery has led us to enhance our data integrity. We maintain a considerable knowledge of technologies and software and have had a reasonable influence over the industry with regards to what can be achieved through BIM. We understand that it is a great advantage to use BIM so that the entire project can be documented within one package. We recognise that by using a 3 dimensional model, the potential conflicts are identified at a much earlier stage. Our documentation is delivered in a more meaningful manner. We now utilise colour schemes to make systems and various design data more distinguished. The schedules that are produced are taken directly from the BIM and thus have a higher degree of accuracy.

Our extensive Revit library for all building services has been accomplished through rigorous testing to certify that every element appears and behaves correctly. Consequently, the client can appreciate a more aesthetically pleasing product while we can be confident that the engineering aspects are performing to a satisfactory level, now and in the future.



WOOD & GRIEVE ENGINEERS



To us, it's more than just work

www.wge.com.au