

# 235 ST GEORGES TERRACE



## JOINT VENTURE'S GREEN SUCCESS

History has been made at 235 St Georges Terrace, as the development of joint venture partners Hawaiian and Brookfield Multiplex was completed in February 2009. Construction of the commercial office tower heralds a first in sustainable building for new property developments in Western Australia.

The nine level, boutique garden office tower has achieved its goal of attaining a 5 Star Green Star office design rating, setting a benchmark for environmentally sustainable developments in WA.

The tower will offer 18,000 m<sup>2</sup> of lettable floor space, positioned at Perth's western gateway to the CBD. Tenants will be able to enjoy the surrounding established gardens of the heritage listed site on St Georges Terrace known as 'Bishops See', while reaping the benefits of its situation within the resources precinct, alongside the nation's biggest resource companies.

Hawaiian's General Manager of Property Development, Stuart Duplock, believes the Green Star rating confirms what the group set out to achieve. "Our tenants will be the first in Perth to enjoy the green building experience," he said. "There is a real expectation by tenants as well as property owners to now provide a high performance, sustainable working environment for office workers."

Both Hawaiian and Brookfield Multiplex are dedicated to providing sustainable solutions for their buildings. The companies are developing a wide range of experience in implementing such measures into their designs, which are proving popular and successful with clients and tenants. This commercial office tower, for example, has been successful in gaining 100% in precommitted leases, up to a year prior to completion.

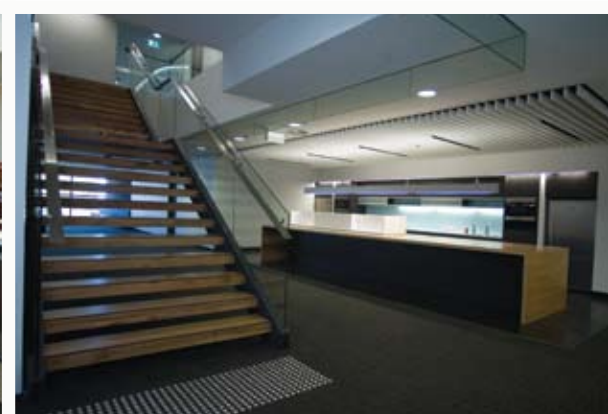
Significantly, the property at 235 St Georges Terrace is also believed to be WA's first building to operate with a number of water conservation methods, including the first grey water system to be installed and operational in a commercial building in the state. This important precedent will pave the way for future developments in WA to include responsible water management practices.

The grey water system installed at 235 St Georges Terrace is one of a number of innovations incorporated into the design of the property in order to target a 5 Star Green Star office design rating. The system utilises sink and shower water discharge for toilet flushing, and water meters monitor usage in bathrooms, cooling towers, irrigation, wash-down, recycled water, rainwater and hot water services. Podium level landscaping is to be provided with a water efficient sub-soil drip irrigation system, and the fire services system has been designed such that all test water consumed in the day-to-day maintenance operation will be re-used through the grey water system.

Full height double glazing for windows will ensure that at least 60% of the NLA shall have a daylight factor, and each tenancy will have its own exhaust fan which will discharge horizontally through weatherproof louvres in the facade.

Other measures for tenants and visitors include cyclist facilities and a dedicated storage area for the separation, collection and recycling of office consumables.

Green Building Council Australia's Chief Executive Romilly Madew confirmed that Perth's first 5 Star Green Star rating is important in setting a precedent in WA. "The Australian property industry has clearly embraced green building and it's no longer a niche market, and it's a firm testimony from Hawaiian and Brookfield Multiplex in their commitment to sustainability that this development at 235 St Georges Terrace will lead the way."



HAWAIIAN +  
BROOKFIELD  
MULTIPLEX  
  
PERTH WA

**HAWAIIAN**  
235 St Georges Terrace  
Perth WA 6000  
t. 08 9426 8888  
f. 08 9322 4303  
[www.hawaiian.com.au](http://www.hawaiian.com.au)

**BROOKFIELD MULTIPLEX**  
173 Mounts Bay Road  
Perth WA 6000  
t. 08 9483 0899  
f. 08 9483 0898  
[www.brookfieldmultiplex.com](http://www.brookfieldmultiplex.com)



# FIRST FOR PERTH

**2** 35 St Georges Terrace in Perth, jointly developed by Brookfield Multiplex and Hawaiian, represents several significant firsts in Western Australian property development.

By providing environmental sustainable design, structural engineering and building services engineering for the project, Aurecon (a global group created by the recent coming together of three world-class companies, namely Africon, Connell Wagner and Ninham Shand) played a crucial role in the tower's success in achieving WA's first 5 Star Green Star office design rating.

235 St Georges Terrace is also the first building in Perth to use grey water recycling, with Aurecon having to work closely with the relevant authorities to deliver approval for this technology for the first time in Perth.

One of Aurecon's key engineering contributions to the project was the precast concrete and structural steel hybrid column and floor system. Features of this system include essentially unpropped construction and light lifting loads; hence requiring smaller cranes than the all-precast equivalent. The hybrid system offers an exceptionally fast form of construction, as off-site labor is maximised. Each beam was prefabricated, the precast concrete was poured and cured off-site, and in the case of the steel beam hybrid, reinforced off-site. The pieces were then simply spliced together on site. The utilisation of repetition in structural form provides an economic advantage, while the system also allows for low building floor to floor height.

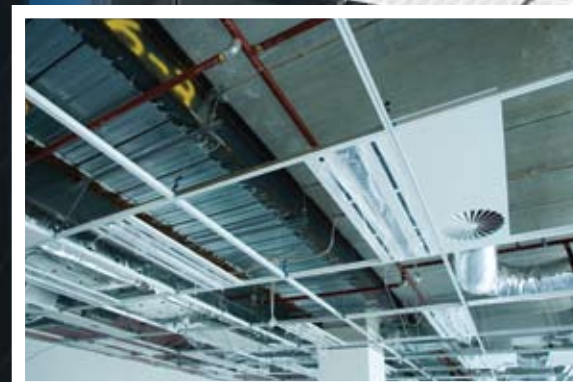
According to Angus Leitch, Aurecon Perth's Building Structures Leader: "The hybrid system demonstrates outstanding design excellence and innovation, but in particular highlights the collaboration between designers and builders and the significant benefits that this alliance can bring to a project."

The project's ESD Advisor Phil Hues appreciated the input from the other members of the design team and the commitment from the client in achieving successful green building design. He said the ability to test design ideas using advanced analysis techniques in the Perth office was highly beneficial to the process. Design initiatives which helped the project achieve the 5 Star Green Star rating include energy efficient lighting and mechanical systems which are enhanced by building orientation, external shading and full height low 'e' glazing.

235 St Georges Terrace is an excellent example of how sensible application of known technology can achieve good ESD results with minimal risk. Aurecon has also demonstrated the many benefits of procuring Structural, Mechanical, Fire, ESD and Facade engineering from the one organisation. For this impressive project, the result has been cost effective design for both structure and Green Star rating.

## AURECON

Level 1, 256 Adelaide Tce  
Perth 6000  
t. 08 9223 1500  
f. 08 9223 1605  
[www.aurecongroup.com](http://www.aurecongroup.com)





# HIGH PRIORITY

Nuceil Services specialise in the professional installation of commercial walls and ceilings. The company's expertise extends from Suspended Ceilings, Mineral Fibre, Plasterboard, Acoustic Panel and/or Perforated Plasterboard to Office Partitioning including Acoustic and Fire Rated Partitions and 9mm Compressed Façade Linings and Framework.

The company is structured to facilitate streamlined delivery of services. Nuceil employs direct labour, managed by dedicated project supervisors, who are proficient in all aspects of the trade. Coupled with quality systems created to reflect the needs of each project, the client can be sure that preceding and subsequent trades are coordinated throughout the project.

Fully equipped with Aluminum Tower Scaffolding, Site Sea Containers and Site Offices, Nuceil Services also provides Light trucks for dedicated deliveries and for erection of scaffolding by licensed scaffolders. Nuceil are available for any size and number of works, and are happy to discuss designs that fall outside the usual scope of works.

Having previously established a working relationship with Multiplex, Nuceil Services were engaged for the installation of walls and ceilings in Multiplex's latest Joint Venture with Hawaiian at 235 St Georges Terrace.

For this project, Nuceil Services have installed 15,000m² of suspended ceilings with the innovative Armstrong Bluetongue aluminum top hat system, using RH99 fine fissured tiles in a 1200 x 1200mm module.

These fissured panels can contribute to Green Star credits for the base building or for tenant fit out as they are GECA approved. The Bluetongue Top hat system offers precise and rapid connection of secondary rails, and is engineered and tested system to support full range of mechanical services.

Armstrong is responsible for manufacturing and supplying all of the components of the suspended ceiling system, which ensures that each item is compatible and contributes to the integrity of the system.

Another feature is Architectural Acoustic Ceilings supplied by Luxalon to client intergraded fit outs including breakout and reception areas, these added to the high end finish of the project

Nuceil management also collaborated with technical staff at Boral Plasterboard's Product and Systems Development (PSD) Team to create solutions for the buildings internal walls. The capabilities of PSD encompass sustainability, structural, fire and acoustic fields as well as compound formulation development.

Working together with suppliers Armstrong, Boral Plasterboard and Luxalon, Nuceil Services have delivered outstanding results on the Hawaiian/ Multiplex Joint Venture at 235 St Georges Terrace, contributing to the fire, structure, aesthetics and Green Star requirements for this significant project.







## HIGHLY WIRED

Everett-Smith & Co were part of the team selected to undertake all the electrical and associated low voltage systems at 235 St Georges Terrace, Perth.

Besides experience and competency being key criteria for any project, Everett-Smith & Co is renowned for its cooperative focus on solutions when problems arise, and was strategic in successfully integrating electrical systems which were chosen in part to help meet the project's groundbreaking 5 star Green Star rating.

Although traditionally described as an electrical contractor, in today's world Everett-Smith is known as the premier provider of technology services since it now has a major role in communications, data, security and fire detection as well as covering all facets of electrical services work. This electrical services work alone covers all high and low voltage systems, backed by real engineering and technical staff.

Value for money, customer satisfaction and commitment to service are all hallmarks that stem from Everett-Smith's solid technical base, delivered by loyal staff and reliable suppliers.

**EVERETT-SMITH & CO Pty Ltd**  
EC No. 000824  
26 Sarich Court  
Osborne Park WA 6017  
t. 08 9445 1244  
f. 08 9446 2760  
e. [esco@everettsmith.com.au](mailto:esco@everettsmith.com.au)  
[www.everettsmith.com.au](http://www.everettsmith.com.au)



## LEADERS IN FIRE PROTECTION

Perth-based Firemain are the trusted specialists in providing fire safety solutions to the commercial and industrial market. Under single management for over 30 years, the company has developed unequalled expertise in the design, installation and maintenance of active and passive fire protection and detection systems. Firemain ensures all of its systems meet the requirements of all relevant codes, and are part of a national fire group which provides these essential systems right throughout the country.

Focusing on major commercial works, the company's work portfolio extends from high profile CBD properties, through industrial projects to some of the potentially most hazardous resource projects around Australia. Through these varied experiences, Firemain has demonstrated that there is very little which falls outside the scope of the company's extensive capabilities.

Firemain work alongside many of Australia's leading architectural, engineering and building contractors, helping to ensure that a project is delivered on time and on budget, while comprehensively protected from the risks of fire.

At 235 St Georges Terrace, Firemain provided sprinkler and alert systems to meet all the criteria of the building's fire engineering brief. For these purposes Firemain designed and installed a combined fire sprinkler

hydrant hose reel system and occupant warning and fire detection alarm systems. The fire services provided comply with the building's ABGR Green Star rating, whereby water used for system testing is subsequently recycled for on-site landscaping. This arrangement offers a pioneering example of sustainable water management to the Western Australian commercial building industry.

Firemain have a comprehensive service and maintenance division. Around 30 technicians who are dedicated to ensure the systems are kept in peak condition through routine maintenance, testing and a 24-hour call-out service.

**FIREMAIN CO**  
12 Davison Street  
Maddington WA 6109  
t. 08 9459 3366  
f. 08 9459 0676  
[www.firemain.com.au](http://www.firemain.com.au)

