

CHADSTONE SHOPPING CENTRE

CFSPM & PROBUILD
VICTORIA

EXPANDING AUSTRALIA'S LARGEST SHOPPING CENTRE

The Chadstone Shopping Centre in Victoria has been touted as Australia's premier shopping destination, and due to its continued expansion it is now Australia's largest shopping centre with over 500 retail outlets and 9500 car parking spaces. The continued growth of the centre has certainly paid off, with a record \$1 billion in sales being recorded in 2008. The centre has undergone thirty separate developments since 1984, the latest being a complete reconstruction of the West Mall – a \$270 million project, which commenced in June 2008.

The new mall development covers an area of 25,000 square metres of retail and 1700 square metres of commercial space. Constructed over two levels and in keeping with the previous redevelopments, the West Mall is finished in high quality materials of stone, glass and stainless steel in a contemporary architectural form.

Colonial First State Property Management are responsible for managing the leasing and construction within the complex. Established in 2002 they are one of Australia's largest asset management and property

development groups and their continually expanding shopping centre portfolio, currently standing at 34 centres, is evidence of their success within this sector. Some other centres Colonial First State manage are Chatswood Chase, Queens Plaza, Bayside Shopping Centre to name a few. With over \$3 billion worth of retail development projects in the pipeline, their success is sure to continue into the future.

One of the toughest obstacles that Colonial First State Property Management faced was a leasing challenge—having to temporarily relocate some fifty retailers as they demolished the ground level mall. They also had to ensure that there was minimal disruption to the rest of the centre, which was operating under the usual trading environment. They successfully overcame these tasks with little interference caused.

Having developed a good relationship and performing well in twenty of the preceding stages, Probuild were the obvious choice of builder for Colonial First State for these final projects. Probuild have a solid track record of delivering complex, high quality projects on time and

within budget, and their many awards highlight this, such as being named Victoria's Master Builder of the Year three years out of eight, and also being granted an MBA award in NSW.

Operating within Victoria for twenty years, Probuild has developed strong relationships with many of their clients, which has secured a large proportion of repeat business for them, the Chadstone project being one such example. They were contracted for the reconstruction of the Loop Mall within the centre, leading them to win the 2008 MNAV Excellence in Construction Award for Commercial Buildings \$20-\$30 million. Yet more awards were gained for Probuild for their work on stages 20, 21 and 22 and the David Jones fitout, that involved construction of two 3-level department stores, demolition of an existing department store, an additional 28,000 square metre of



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SYSTEM TO THE STRUCTURE

Structural Systems are at the leading edge of the construction field with their engineering know-how. No wonder ProBuild Victoria added them to the team for the latest evolution of Chadstone Shopping Centre.

Structural Systems' clients include major mining, retail, commercial and infrastructure developments not only in Australasia, but also the Middle East, South Africa and the UK, where they also maintain offices. They are also involved in joint ventures in many other nations.

Since opening shop in Victoria in 1959 as BBR Australia Pty Ltd, when they were sole Australian licensee for the European-developed BBRV post tensioning system, they have grown into a publicly listed multidimensional giant in the engineering game.

Their services include post-tensioning, formwork, slipform systems, concrete supply and placement, reinforcement fixing, remedial engineering and concrete repair, service contracting, engineering design, project management, geotechnical services, ground anchors, depressurisation and blast hole drilling, technical access, and construction and mining componentry manufacture and supply.

Chadstone Shopping Centre when it opened in 1960 was Australia's first freestanding regional shopping centre. After this latest round of building and refurbishment, it will boast Australia's largest free carpark (over 9,500 spaces), Australia's only Jimmy Choo outlet (that's one to excite the ladies), and the first 5 Green Star rating for a Shopping Centre PILOT (Australian Excellence) from the Green Building Council.

Structural System's contribution to works included ensuring the built elements are up to supporting hordes of fashionistas thronging 25,000m² of new mall. They installed Carbon Fibre as a Fabric Sheet System for Column Strengthening. This strengthens the concrete columns and also gives non-corrosive structural properties. FRP is one of the suite of techniques and products they offer for structural strengthening and is also in retrofitting ageing structures as part of remediation.

They have achieved many impressive firsts, largests and tallests.

In 1976, they did the cable-stay work for Sydney's Centrepoint Tower, at that time the tallest structure in the entire Southern Hemisphere, and still an iconic part of Sydney's skyline.

In 1984, they built Australia's first incrementally launched bridge structure, the Killawarra Bridge in NSW, and in 2001, they installed the world's largest permanent and restressable ground anchors in restrengthening the Canning Dam in Western Australia.



In Dubai, they engineered essential structural elements of Emirates Tower in Dubai, the world's sixth tallest tower, and in London in 2003, they built London's tallest post-tensioned building, West India Quay. Their capabilities run to full design and construct contracts, as demonstrated in 2001 with Burjuman Shopping Centre in Dubai.

Their expertise comes to the fore in extremely challenging projects, such as designing and installing the revolutionary movable stadium grandstands in Sydney's Stadium Australia in 2001, and the heavy lifting and erection of the massive opening roof structure of the National Tennis Centre in Melbourne in 1998.

Because they handle the whole process on many jobs from design through to labour onsite, they can work swiftly, like they did at Rouse Hill in 2006, where almost 1000 Tonnes of SSL Slab System bonded post-tensioning was shop drawn, procured, supplied, installed, stressed and grouted within 7 months.

As part of their work within the energy sector they have designed and constructed LPG and LNG containment tanks in Western Australia, the UK and Dubai.

They are also strong players in the structural remediation field, including façade restoration and refurbishment, structural strengthening and modification. This arm of the group has experienced strong growth, driven by inhouse expertise including engineers, draftsmen, estimators and site foremen. Whatever the task, they'll find a way to do it.

This can-do was amply demonstrated in 1998, with Sydney's Radisson Hotel Cupola. This involved in-place lifting of an 1000 tonne heritage cupola dome from 12 storeys above street level to a resting place 4 vertical metres above. The massive yet fragile sandstone structure was lifted over 2 days, using 10 ultra-long-stroke jacks and 30 personnel, with no damage to the dome, the building or the workers.

Structural Systems / Meridian Concrete are able to service all your construction needs on any type of project no matter how big or small. With their "One Stop Shop" including structural design, remedial works, earthworks, excavation, formwork, reinforcement, post tensioning, concrete, concrete pumping and many other specialist services, they can look at your construction needs and give you the most professional and knowledgeable advice in the marketplace.

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YOU RING - WE BRING!

Mission Statement: *To provide professional on-site sales, customer service and technical advice, with high quality fastening systems to the construction industry. With over 50 years of combined industry experience, we pride ourselves on second-to-none service, extensive product knowledge and competitive pricing.*

Dillon Construction Fasteners have been working within the construction industry since 2001 and during this time have built a solid reputation for themselves, having supplied projects such as Waterfront City, South Wharf, Convention Centre, M.C.G Redevelopment and Melbourne Central refurbishment.

Their company slogan 'YOU RING - WE BRING' reflects their can-do attitude alongside their impeccable and professional customer service. Specialising in construction fasteners, sealants and adhesives, this company of two delivery drivers and four sales representatives, serves to provide attention to detail on every job.

Having worked with Probuild on numerous projects over a span of twenty years, Jammie Dillon, and for the past 9 years Dillon Construction Fasteners, have been commissioned to work on the Chadstone Shopping Centre redevelopment since its commencement in 1987.

As can be seen from their mission statement, they have extensive experience within the industry. This has ensured that the Chadstone project has run smoothly and has been constructed by Probuild and sub contractors like Allcrest Ceilings and Hammerhead Builders, utilising the latest innovative fastening systems such as Powers Blue-TIP-Screwbolts, Powerfast-Pro Epoxy injection system and W3 impulse framing tools among other fastening systems.

Their expanding portfolio of high profile and award-winning projects is sure to stand well for this up and coming company, now in their tenth year of business.

REMEMBER: YOU RING - WE BRING!

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A SHADE ABOVE THE REST

In today's harsh environment, more and more people are looking for protection from the elements. SuperSpan has been providing and installing shade cloth membrane structures since 1980 for numerous industries such as agricultural, aeronautical and the automobile industry, as well as for shopping centres.

Having worked with ProBuild on the Bayside Frankston Shopping Centre and given their worldwide experience, SuperSpan was an obvious choice to provide cover on the rooftop car park of Chadstone Shopping Centre. Having invented the shade sail and owning many patents on them, they are known for their strength and simplicity. The basic modular construction consists of a series of square panels, bound together with webbing attached to CAD patterns, with high strength buckles connecting each corner.

With the number of car parking spaces being increased to 9500 at the Chadstone Shopping Centre, SuperSpan installed 18 large sails on the rooftop car park, each measuring approximately 300 square metres. The installation, completed by two of their five employees, was completed in just under three weeks. They have utilised the latest all monofilament 90% cloth, known for its very low stretch and maintaining its shape

which allows for larger panels to be developed. Having refined their techniques from over 30 years experience, the installation at Chadstone was smooth running. The main challenge they faced was a lack of access, resulting in bringing in a crane to successfully manoeuvre all the materials to the rooftop car park.

SuperSpan have also been heavily involved in many water conservation projects – providing shade and membrane technology to prevent water evaporation and contamination that can self-support over a large area. They're innovative techniques in this area have seen them working with East Gippsland Water and Melbourne Water on projects to conserve and recycle water.

At the forefront of their industry, and continuously evolving and improving their products, SuperSpan is internationally recognised to cover all their customer's needs.

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PINK HYGIENE IS CLEAN HYGIENE

Pink Hygiene Solutions is the leading washroom hygiene brand in Australia. They operate in all states of Australia and employ over 500 people to manage, market and maintain hygiene solutions for client's washrooms and other critical workplace areas. Pink provide a dependable, high quality service to help keep staff and customers healthy and business reputations intact. Unique within their market, Pink uses a complete range of custom designed products to support their services and their customer's needs. Part of the Rentokil Initial Group, allowing them access to the global research and development team, their products are stringently tested and manufactured to the highest quality.

Pink commenced servicing the Chadstone Shopping Centre in July 2007. During the continuing redevelopment stages, they have been instrumental in assisting the shopping centre in minimising disruption to customers by carrying out the installation of washroom products and subsequent servicing outside of trading hours. Products installed include the Pink Non-Touch Sanitary Units, which remove unnecessary physical contact and ensures a high level of hygiene and comfort. These have been designed in custom colours of beige and aubergine to complement any toilet cubicle layout. They also introduced auto fan air freshening units into the washrooms to eliminate the use of aerosol cans, which involves a perfume continuously being dispersed via a silent fan to combat malodours and provide a fresh, pleasant smell for Chadstone washroom visitors.

Pink has a good relationship with Chadstone providing ongoing servicing of their products to maintain a clean and hygienic washroom environment. Many services require attention on a twice-weekly basis – these include air freshening, sanitary disposal, nappy disposal and vending machines.

Since November 2008, Chadstone have undertaken a trial of a unique product called eco-Pink – a water saving urinal solution. This innovative product eliminates odours, drastically reduces urinal water consumption and blockages, and improves hygiene.

As serviced-based company, Pink sees the importance of equipping their staff with everything possible to make their jobs enjoyable and efficient. Customised Pink vehicles hold all the equipment a service technician requires, including Personal Data Terminals – providing detailed information on servicing requirements while onsite and also digital proof of service that can be emailed direct to the customer within minutes of the service being completed.

Pink relies on providing businesses with a dependable, high quality service that will help staff, customers and washrooms remain healthy and keep reputations intact. For more information on this project feature please contact the Melbourne office on (03) 9944 3300 to speak to one of their friendly hygiene consultants.

PINK HYGIENE SOLUTIONS

To find an office closest to you:
t. 1 300 73 1234
www.pinkhygiene.com.au



nhp.com.au/energymanagement

NHP sub-metering systems for ABGR applications

The number of certified projects that have gained Green Building of Australia Green Star ratings has doubled in 2008, highlighting the fact that the push towards 'greener' buildings is getting ever stronger. Under the current Green Star design V3 framework, base buildings must achieve a minimum predicted rating of 4 stars using the NABERS Energy system.

Whilst there are many options available to design Green Star and NABERS Energy initiatives into greenfield projects, this only represents 3% of office space in Australia. The other 97% are existing buildings that will need some refurbishment or retrofitting if they are to obtain a Green rating.

Building owners that pass by their older commercial buildings may struggle for government leases, suffer decreasing rental rates, lose capital value and possibly under the soon-to-be-introduced Australian Emissions Trading Scheme (AETS), have increased operating costs. The December 2008 federal government White Paper on Climate Change has set an early benchmark of 5%, with the flexibility to move to 15%. The cost of a carbon credit and the effect of that cost against building stock that doesn't meet Green criterion is yet to be detailed, however, at the proposed AUD\$25 per ton, some businesses may need move to 'greener' properties on purely economic grounds.

One of the 'Top 10 Tips' in Arup's (*Survival Strategies for Existing Buildings*), is to install sub-metering systems, with the old adage 'you can't manage what you can't measure' ringing true for energy management. Understanding consumption and where and when it's used provides information to assist in curbing unnecessary demand and allows

fine-tuning to make the most of energy being used.

The 'greening' options available to existing building stock compared to greenfield projects is limited and many initiatives will be unviable or impractical. The emphasis that exists within the Green Star framework and NABERS Energy makes energy a good starting point. Under the Green Star assessment framework, there are 22 to 34 points available from electrical-related initiatives that could potentially contribute between half to three-quarters of the points needed for a Green Star 4.5 rating. Therefore electricity and energy management are great places to start when establishing green goals for existing buildings.

NHP offers sustainable energy management products and advice on either existing building stock or greenfield developments. NHP's cost-effective range of meters and metering software products can be retrofitted into existing electrical infrastructure. NHP can also design a high-end embedded Energy Management and Control System (EMCS) that sits over co-generation, UPS, generator and change cover or other energy consuming applications.

To achieve the EMCS, NHP can draw on its partners IME or Carlo Gavazzi for multi-function power quality and kWh meters, utilising open architecture software for the function of energy data capture and reporting. The ethernet-based network utilises Modbus 485 communication-capable devices on a single platform of Industrial PCs and Distributed I/O, which is expandable to incorporate PLCs if automated control is later required.

For more information, please contact your local NHP representative or visit nhp.com.au/energymanagement

PROJECT DATA

existing building retrofit case study
388 GEORGE STREET

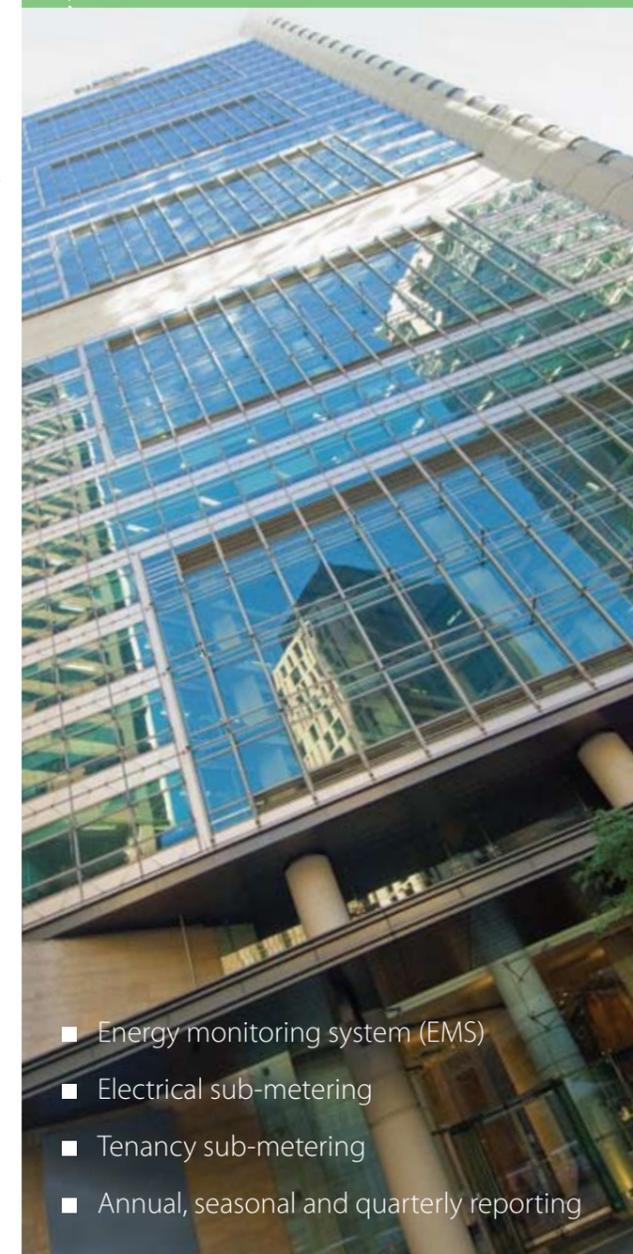
CLIENT
ING and Brookfield Multiplex

ASSET MANAGER
Brookfield Multiplex

PROJECT ADDRESS
388 George Street, Sydney

METERED POINTS
45 meters across 28 floors
100 meters will be required for Stage 2 of the project

APPLICATIONS
• Tenancy metering
• NABERS energy compliant



- Energy monitoring system (EMS)
- Electrical sub-metering
- Tenancy sub-metering
- Annual, seasonal and quarterly reporting