



## City Central Tower One is the first of a series of new buildings and refurbished heritage structures transforming downtown Adelaide

Constructing a new multi-storey commercial office building is always a process that combines excitement with a sense of anticipation in facing new challenges, particularly in a heated construction market. Adelaide's City Central twenty-one storey Tower One is certainly no exception, but one that the Baulderstone Hornibrook design and construct team embraced with enthusiasm.

Why not, when the company can point to more than sixty years of complex construction experience and a project history that includes the Sydney Opera House, almost certainly Australia's signature building.

During recent years, the developer Caversham Property Developments progressively acquired the majority of properties located in the city block bounded by King William, Waymouth, Bentham and Franklin Streets. A master redevelopment plan was then prepared for the total area to create a new benchmark for sustainable urban amenity.

Tower One is the first of a series of new buildings and refurbished heritage structures that will transform City Central into a prestige destination boasting superbly landscaped open plazas & interconnecting walkways through to an exciting mix of retail shopping, cafes, restaurants & casual eateries.

Recently completed and handed over in late January 2007, Tower One is already largely committed to a tenancy mix of government departments and professional organisations. The State Government's agreement to leasing a third of the space will provide the opportunity to accelerate the achievement of their avowed target to reduce agency energy consumption by 25%.

The development is notable for its high environmental standards that embrace both the use of recycled materials in its construction and a design that recognises and responds to the energy demands and emissions from a contemporary commercial tower block. The standard has been rightly recognised by the Green Building Council of Australia awarding the project a 5 Star Green Star rating, (version II) representing Australian Excellence standard. The building is the first in South Australia and the largest in Australia to date to be acknowledged at this level.

Baulderstone Hornibrook's commitment to best practice environmental management was initially recognised in 1997 as the first major Australian construction company to receive third party certification to ISO14001. Their project teams continue to demonstrate extensive skills in managing construction activities in an environmentally sensitive manner. The company is now also a member of the Green Building Council of Aus-

tralia and a number of their South Australian staff are Green Star Accredited Professionals.

As project manager Tony Caretti observed: "Taking on a project with such strong environmental targets meant that our team had to ensure we had the specialist knowledge necessary for working on a ground-breaking environmentally viable construction. Our Services Manager, Neville Hall, is a fully accredited Green Star professional and he provided the focus and drive to respond to the demands of our client and the designers, ensuring we always maintained the rigorous standards demanded by the 5 Star rating. The secret was in our pre-planning with the preparation of a comprehensive environmental management plan that we then made sure we followed to the letter."

One of the more significant features designed to achieve exceptional energy efficiency is the use of a passive chilled beam air conditioning system in lieu of the more traditional variable air velocity system. While passive chilled beams have been used for approximately a decade in European construction, City Central Tower One is one of the first in Australia to make such extensive use of the system. The interior environment is further improved by the use of materials that produce low levels of pollutants and a design that avoids air-circulation, instead allowing for 100% fresh air.

In addition, more than half of the construction waste that is invariably generated by the building processes was diverted from landfill. The structure uses recycled steel and timber sourced from sustainable resources. The building employs an efficient water irrigation system and is designed so that water consumption is both efficient and minimised, essential objectives considering the demands placed on such a finite natural resource.

The site is central for easy access to public transport, enabling the workforce to use public transport, again providing for a more environmentally friendly cityscape.

Tower One is a building that cares about the health and morale of its occupants; a building that improves productivity by providing fresher air and higher levels of natural light; an energy efficient building with lower operating and life cycle costs.

The standards of excellence that are achieved in this development will undoubtedly point the way forward for design and construction, both in Australia and overseas. With governments and clients demanding a cleaner and greener future, buildings such as City Central Tower One will be viewed as the new benchmark in environmentally friendly architecture and construction.

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Centre of efficiency



Baulderstone Hornibrook Project Manager Mr Tony Caretti





# Ceiling the deal



Fricker have a long established record working with the Australian construction industry. Their portfolio includes such landmarks as 30 The Bond and Westpac Place, Sydney and National@Docklands, Melbourne. Fricker Ceiling Systems began trading in 1993, and the company was recently acquired by CSR Building Products Limited, who identified Fricker as market leaders and an essential asset for their growth and development in the commercial sector.

Now trading as CSR Fricker Ceiling Systems, they offer a diverse range of ceiling solutions tailored to suit each type of development, whether it be commercial buildings, education, healthcare facilities, retail or industrial developments.

Fricker supply fully integrated ceiling systems including the suspension system, ceiling tiles, lights, diffusers and perimeter trims. Working closely with designers and project architects Fricker specialise in the design and manufacture of ceilings tailored for premium commercial developments.

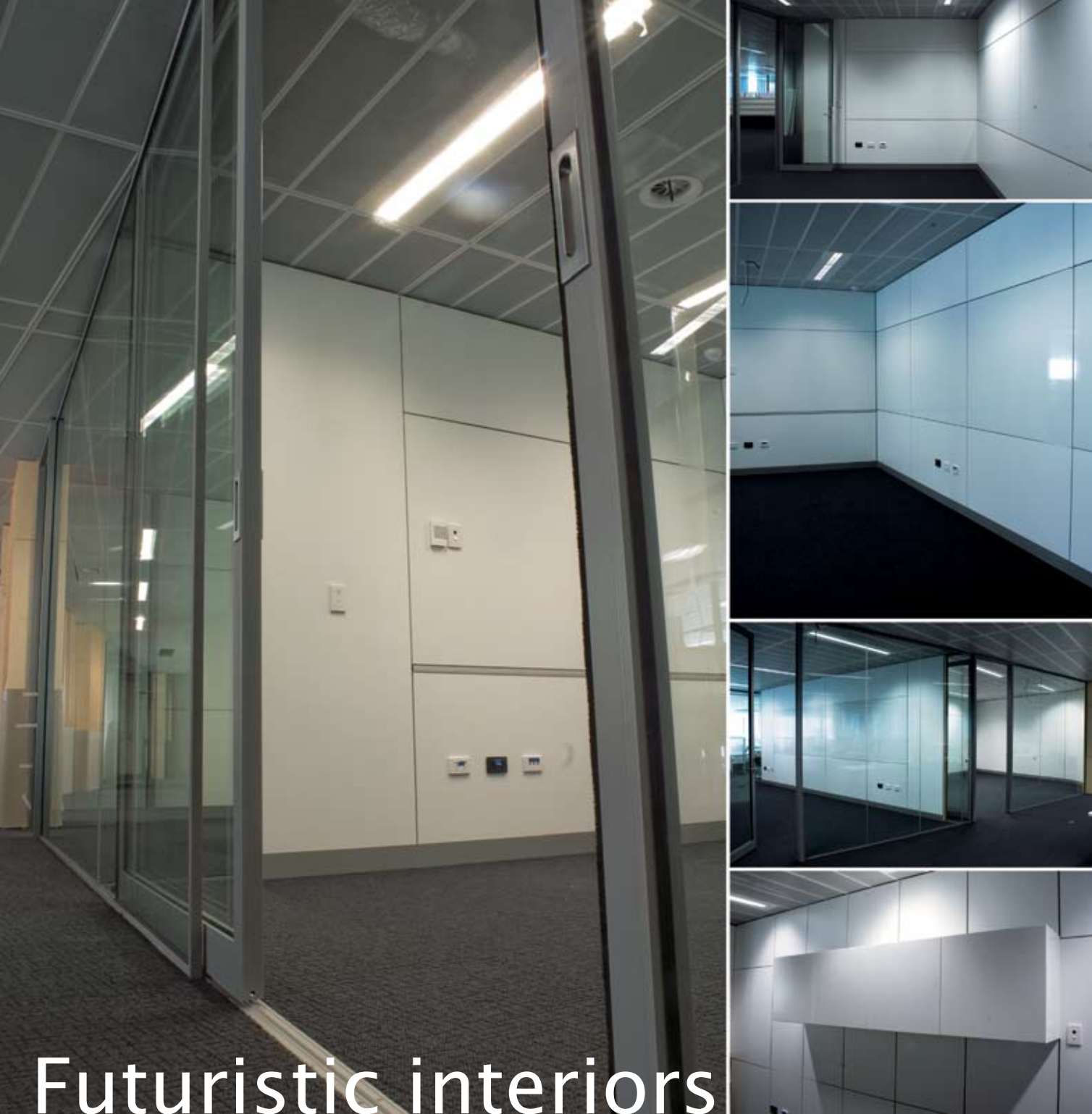
The City Central Tower One development saw the Fricker team, under the guidance of Michael Fritz, working collaboratively with Caversham Property, Woods Bagot, Baulderstone Hornibrook and Ceiling & Wall Contractors from the early design stages through to completion of the project.

The chilled beam system used to cool the building necessitated Fricker design and supply bespoke perforated metal pan ceiling tiles with their Fricker Easy Access Suspension System® and perimeter trims. The complexity of the design and use of chilled beam technology presented potential complications, which Fricker were able to avert thanks to their experience and the flexibility of their product customised specifically for the environmentally friendly design and technologies. In addition, service tiles were delivered with prefabricated apertures, which enabled a more rapid installation process.

Robbie Brown, Marketing Manager at Fricker stated, "As an active member of the Green Building Council of Australia, Fricker recognizes the importance of not only the form but the required functionality of a ceiling. This is with the lifecycle of a building in mind and for the health and well being of the occupants". This union of design and function can be perfectly seen in City Central Tower One.

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## Futuristic interiors

**F**ounded in 2003 Techbuilt Interiors is a young Sydney based company that is already making its mark on the Australian construction industry. Members of the Green Building Council of Australia, Techbuilt Interiors has the exclusive license for Telezygology's FutureWall™ demountable partition system in Australia, New Zealand, and the UK.

Key to the FutureWall™ system is its embodiment of environmental principles, as Mark Dunshore of Techbuilt Interiors explains, it is not just that the partition system uses melamine particle board that is made from timber that is sourced from sustainable resources, but that the panels are also designed to be reused and recycled. Thus, as he observes, if a client finds that the panels have reached the end of their useful life for whatever reason, the panels can be recycled and the wood used to create other products. Cost effective and easy to install, the FutureWall™ system uses framing that is made from aluminium, which can be used repeatedly, assembled and broken down without difficulty. In addition, aluminium is an easily and widely recycled metal.

The environmental benefits of FutureWall™ are clear, and it is not surprising that City Central Tower 1 chose to utilise the experience of Techbuilt Interiors. Techbuilt's driving philosophy supports environmental responsibility,

and they recognize both the need, and the increasing demand, for sustainable solutions in contemporary construction.

The City Central Tower 1 development saw Techbuilt Interiors providing integrated magnetic white boards to the client's requirements. Such elements can also, as Mark Dunshore notes, be readily recycled.

Techbuilt Interiors is currently working on a project for the corporate headquarters of Forestry SA at Mount Gambier, and a new office fitout for the ATO in Canberra and has completed numerous other projects in both the public and private sectors.

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## Steel-ing the show

**A** key element to City Central One's five-star environmental credentials comes from the use of recycled steel. Smorgon Steel Reinforcing have been in business for over fifty years, providing steel reinforcing for concrete construction across a wide range of projects. The company have a long history, which takes on major projects such as Adelaide Airport's elevated roadway, Liberty Tower, and the Holdfast Shores project which incorporates a hotel, marina, shopping and entertainment complex, in addition to previously contracting to previous Baulderstone Hornibrook projects. The company pride themselves on their ability to supply 100% recycled steel, generated from scrap metals. As project supervisor Lindsay Wright proudly observes this not only makes Smorgon Steel Reinforcing unique, it is also, given current and ongoing environmental concerns, a feather in the company's cap. Indeed the company's environmental credentials are well established and also include contracting obligations on the South Australia wind farms developments at Wattle Point, currently the largest wind farm in the country, and Mount Millar.

For City Central 1, Smorgon Steel Reinforcing scheduled, processed, delivered and erected the processed reinforced steel in-situ, preparing the project for concrete placement. The company's initial involvement took over a year, and throughout the process all of their employees worked on the Adelaide development. The speed at which the project progressed in meant that steel fixing took place while other trades people were also working on the project, this enabled Smorgon Steel to recognize and respond to demands as and when they occurred, enabling an immediate response while always being aware of costs and the bottom line.

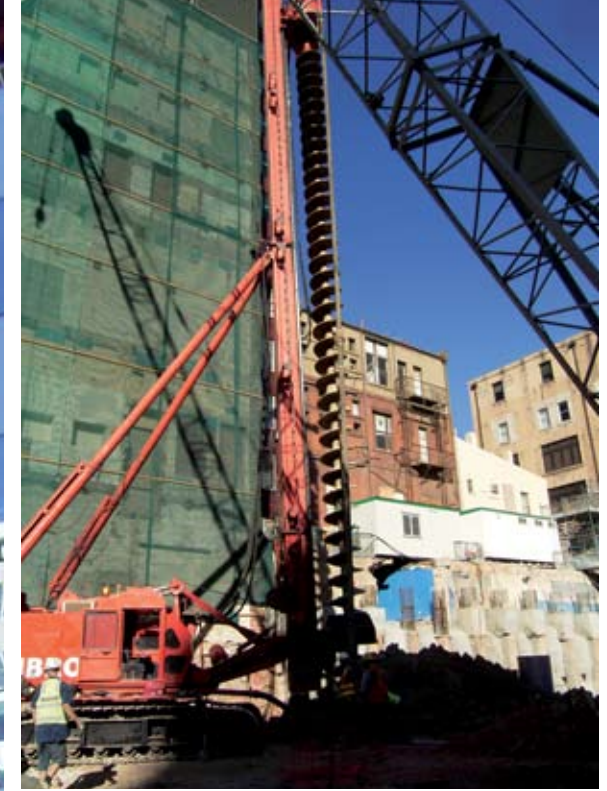
Currently processing, supplying and fixing the steel reinforcement for City Towers 2, Smorgon Steel Reinforcing are, states, Lindsay Wright proud to be part of the ongoing A\$660-million project that will help define the future of Adelaide as well as helping to set the new benchmark in contemporary environmentally aware construction.

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# Form of excellence



**M**elbourne based Form 700 were founded in 2002, and have already established themselves as a presence in the Victorian construction industry, unsurprising when you consider that their management team have between them thirty years experience in the industry. This experience is matched by the in house training of Form 700's employees which enables the company to maintain the high degree of workmanship and skills of their team and guarantee the standards of their work. With a company history that includes successfully completed projects such as the Royal Women's Hospital and Victoria Point, both in Melbourne, City Central Tower One represents Form 700's first project in the South Australian capital.

Specialists in concrete and construction, for the City Central Tower One Form 700 owners Emilio Rosati, Paul Brazis and Nick Spiropoulos, alongside estimator Peter Watson, developed a competitive tender and work plan. Under site general foreman Americo Luis Form 700 performed the formwork and concrete pumping. In addition they were contracted the supply, erection and operation of the jumpform for the lift core. Form 700's commitment to the project began in April 2005 and lasted until June 2006.

As a green star project City Central Tower One necessitated that Form 700 work to specific green criteria, something the company were already familiar with from previous developments. Moreover, as a company they recognize the importance of being fully adaptable and being able to meet the specific demands of any project on which they tender.

With the completion of City Central Tower One, Form 700 have established a profile in Adelaide, something which they are already planning on building upon, consolidating their role interstate and building on the success of the previous five years.

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## Top of the pile

**V**ibropile's team of designers, project engineers, and field crews were contracted on to the City Central Tower One project to provide soldier piles and to lay the foundations for the Adelaide development. Vibropile spent two-months on site, on both retention and, later, foundations.

Well established in Australia Vibropile are in a unique position, possessing four Enteco E25SD drills, which are custom made to the company's specifications. Amongst the most powerful CFA drill rigs in the world, the Enteco E25SD positions the company at the cutting edge of their industry, and makes them global leaders in technical innovation.

Using an on board computer which measures penetration rate, depth, torque, and drilling resistance, the computer screen enables the drill operator to visualise exactly what is happening below ground while he drills. Moreover, when the operator switches from drilling to concreting mode the computer also measures flow rates and depths, once again offering the operator a snap shot image of what is happening under the surface.

Should there be any potential defects or problem with the concrete being pumped audio and visual alarms are immediately triggered, which enable the operator to resolve any problems with ease. There is also a modem in the computer, which allows all the data gathered during pile construction to be sent straight to Vibropile's Melbourne office, where the information is analysed and reviewed so that any potential problems can be rapidly identified and rectified.

The construction of City Central Tower One saw the first CFA piles founded in Hallett Cove sandstone, which necessitated geotechnical surveys prior to commencement of work. The advanced methods employed by Vibropile meant that the process proceeded with comparative ease and the project was completed on schedule.

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