

EDMUND BARTON BUILDING



DEVELOPER : Stockland
MAIN CONSTRUCTION COMPANY : Baulderstone
CONTRACT VALUE : \$84 million
HEIGHT : 5 floors
COMPLETION : August 2009
ARCHITECTS : HBO + EMTB
CIVIL / STRUCTURAL ENGINEER : Taylor Thomson Whitting
CIVIL HYDRAULIC ENGINEER : Hughes Trueman
BUILDING SERVICES : Norman Disney & Young
GREEN STAR RATING : 5 Stars
NABERS ENERGY RATING: 4.5 Stars



BAULDERSTONE REFURBISH EDMUND BARTON

Further strengthening their reputation as an industry leader, Baulderstone has completed a significant refurbishment of the heritage listed Edmund Barton Building in Canberra in just 52 weeks.

Situated prominently on the edge of the Parliamentary Triangle and Lake Burley Griffin, the Edmund Barton Building was designed by world-renowned architect Harry Seidler and constructed between 1970 and 1974. Heritage listed on the National Estate, the building is a significant Australian landmark and Baulderstone had to ensure that the main fabric and elements that represent the Commonwealth Heritage Values of the building were protected throughout the works.

The building consists of 6 cores joining 7 wings around 2 large internal courtyards, stands 5 floors above ground level and includes one basement. The façade of the building consists of off-form structural precast post-tensioned concrete beams and panels with a distinctive stainless steel disc design.

The scope of the refurbishment works entailed the demolition and replacement of all existing services and finishes, refurbishment of lifts, replacement of the façade glass, and complete reconfiguration of the basement, with the final outcome providing 45,000sqm of net lettable area with an average floor plate of 7,741sqm. The brief also required structural alterations, roof rectification, and rectification of

existing items that did not comply with current BCA regulations. The project was delivered in 4 stages and to ensure adherence with the strict timeframe, site manpower was maintained at 270 men per day for a six month period, peaking at slightly over 300.

One of the early challenges the team, led by Project Manager Matthew Moar, had to overcome was materials handling – the project was akin to ‘feeding an elephant with a teaspoon’. The building has no goods lift, utilising only small passenger lifts, and had no large openings in its façade. Rubbish chutes were erected at three cores for removal and recycling of demolished materials, then Staged scaffold loading bays were installed to the core windows, which provided

a 2.4 x 1.4m opening for materials entry into the building. A man and materials hoist was also installed at one of the cores for small materials and man access to floors.

Due to the tight time-frame for the early planning stages, prototype installations were developed for services coordination within the extremely limited constraints of the ceiling space as the existing structure had a low ceiling height compared to modern-day buildings. This allowed for correct construction sequencing to be developed, which necessitated strict time frames and coordination between all trades.

Consistent with construction of the 1970’s, the building contained asbestos, the removal of which formed part of the contracted works.

For the majority of the contract period, Baulderstone also had to contend with and maintain the conditions of an existing tenant in the basement who provided on-line network security services to government, public and private clients. Baulderstone were able to provide innovative solutions to work around the existing tenant for 6 months of the contract period and were able to re-programme much of the works that were affected by the tenancy to achieve the tight target dates.

To achieve the targeted 5 Green Star and 4.5 NABERS base-building rating, numerous ESD initiatives were included. The building now boasts the largest active chilled beam installation in the southern hemisphere and includes thermal heat wheels which provide 100% fresh air at all times.

2760 windows in the wings of the building were reglazed into existing heritage-listed window frames with energy efficient double-glazed units and 60 floor-to-ceiling window units were installed to the 6 cores. An innovative aluminium scaffolding system was developed to facilitate the external glazing silicon top up.

Completing such a complex project within a year is a remarkable feat but adding to their exemplary performance, Baulderstone recorded no Lost Time Injuries on the project.

Considering the nature of the work, the tight time-frame and the high levels of manpower on site, this is truly a significant tribute to the Baulderstone site management team.

PROJECT TEAM MANAGEMENT:

Matthew Moar	Project Manager
Pedro DaSilva	Site Manager
Nicholas Turner	Contracts Manager
Adam Sharp	Services Manager

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EDMUND BARTON ON QUICK LIST

Quick Contracting (NSW) Pty Limited are extremely proud to include the refurbishment of the heritage-listed Edmund Barton Building in Canberra to their growing list of recently completed projects in the ACT. The works were administered and supervised by Steve Hyde (Construction Manager) and Richard Forward (Supervisor).

Quick Contracting is a medium to large plumbing company, which commenced trading in 1952 as Quick Plumbing in Victoria and now operates as a standalone contractor throughout Eastern Australia. The company’s first project was the Athlete’s Accommodation for the 1956 Commonwealth Games in Melbourne and since that time, they have been associated with many landmark buildings and expanding into NSW and the ACT.

The Edmund Barton Building refurbishment project included the demolition and replacement of all existing services and finishes with Quick Contracting (NSW) Pty Limited engaged to carry out the hydraulic services for main contractor, Baulderstone.

The original building was constructed in the 1970’s and as heritage listed property, all contractors, including Quick, faced the challenge of ensuring that the main fabric and elements that represent the Commonwealth Heritage Values of the building were protected.

The scope of the works involved the renewal of services to the six core toilet blocks, including sanitary plumbing, hot and cold water and reuse stormwater for toilet flushing, as well as fire hydrants and hose reels. Within the basement area, the works involved a combination of both renewing and using the existing reticulation mains. In particular, all the previous vacuum sewer ejectors were replaced with purpose made stainless steel units and cutter pumps and all the subsoil pumps were also replaced

To assist in achieving the aim of a 5 Star Green-Star rating and a 4.5 star ABGR for the base building works, Quick Contracting used solar panels as a renewable energy source for preheated hot water on the project. As part of the Green Star requirements stormwater was collected externally in a purpose built collection pit and pumped back to a 300,000Lt storage tank. A filtration and sterilisation plant was built to treat the collected stormwater and a new ring main installed into the basement for service to the core toilets. As part of the new fit out to the toilet areas, water saving fixtures were installed including sensor taps to the basins and low flush fixtures.

This extremely interesting project further enhances the company’s impressive ACT portfolio which already includes the Centrelink National Support Office in Tuggeranong, 18 Marcus Clarke Street and 7 London Circuit. Quick Contracting has supported its expansion into the ACT by establishing an office and factory in Queanbeyan to better service projects in the area.

Still 100% family owned, Quick Contracting employs some 80 to 100 staff throughout the company from Design and Estimating to Plumbing and Draining. The company provides a comprehensive range of services including design and construct solutions; installation only contracts; Government Projects; Apartments; Hospitals; Office Towers; Mechanical Pipework; Solar Hot Water systems; Gray Water Systems; Rainwater Harvesting and Water Filtration



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B&D CALL ON THEIR SUPERHERO



ACT-based B&D Crane Hire, called on the 'superhero' of their equipment fleet to cope with the specialised materials loading requirements on the refurbishment of the Edmund Barton Building in Canberra.

The project required special platforms to facilitate loading through the windows and B&D manufactured custom parts to suit the project along with utilising a range of 30-100 tonne cranes and the star of their fleet, spiderman.

B&D is the only company to own a 'spiderman', which is a specialised roll-in roll-out platform which hangs off the crane to facilitate loading into difficult areas. B&D also owns the only Tower cranes and Alimacs in the area and has a large fleet of mobile cranes, rigging and steel erection crews and an engineering service to manufacture special requirements.

To ensure there is no down time on their equipment or waiting time for technicians from Sydney, B&D employ a team of full time crane and plant technicians and are available 24/7 throughout the ACT and surrounding areas.

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FREDON AIR

"WORKING TOGETHER FOR BETTER RESULTS"

The refurbishment of a 1970's heritage listed building would under normal circumstances present unique challenges.

The preservation of designated heritage items during construction and the installation of new mechanical equipment into existing building confines would naturally require careful planning and co-ordination. And whilst the Edmund Barton Building was no different, it also was a special case, due to the magnitude of works to be undertaken and time allocated. Never the less Fredon Air were ready, willing and able to meet this challenge!

With over \$18 million worth of mechanical services to complete in under 12 months it included the supply and installation of over 2900 active chilled beams, over 40 kilometres of pipe work, 5 kilometres of duct work and projected peak man power levels of over 90 men per day. In addition were the 4.5 Star ABGR and Green Star considerations incorporating energy initiatives such as thermal heat wheels, condenser water reclaim and high efficiency bearingless chillers.

The works then had to be accommodated within limited ceiling spaces or positioned into basement plant rooms with very restricted access. The successful completion of the project is testament to the highly professional approach adopted by Fredon Air.

Whilst many factors contribute to successful outcomes, the following were viewed by Fredon as the cornerstone to success;

- A high standard of Project Management and Engineering
- The ability for the project team to fully understand and appreciate the project requirements and outcomes for success
- Fredon Air undertook the lead co-ordination of services using a combination of 2D and 3D CAD drawings.

- The engagement of specialist sub contractors with the expertise, quality and resources to undertake the works.

Fredon is also working on high profile projects such as the Direct Signals Directorate R5/R6 refurbishment in Canberra, the New Water Board Offices at Potts Hill (5 star Green Star) and the Reserve Bank Central Plant Upgrade in Sydney.

Fredon would like to thank Boulderstone Construction, Stocklands, NDY and GHD for their support through the project. We would also like to extend our thanks to our key sub contractors Axis Plumbing, Control and Electric, L&M Insulations, Hatch and Sons and Integra Water Treatment.

Fredon! Big enough to handle the most complex project but small enough to care.

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