



Up in the AIR ON BROADBEACH

CONSTRUCTION OF THAKRAL HOLDING'S \$100 MILLION development, "Air On Broadbeach" on Queensland's Gold Coast is now complete. Barclay Mowlem commenced works in May 2003.

Barclay Mowlem's General Manager Building North, Greg Little, said that the construction of this 37-level residential tower had offered an extraordinary number of challenges due to it being built over the four level Oasis Shopping Centre and around its existing atrium rooftop. To complicate matters further, the centre houses the terminal for the monorail that services Jupiter's Casino.

"Barclay Mowlem has an exceptional reputation for constructing major developments in operational environments and our team is well equipped to ensure minimal disruption to the existing businesses.

The retail and popular restaurant and café precinct, and the existing monorail facility all remained fully operational during the construction, which was possible through the utilisation of steel framing extending over the rooftop dome and a purpose-built steel framed tunnel to ensure public safety," said Mr Little.

Thakral's Development Manager, Mark Jewell, said Thakral was very comfortable with Barclay Mowlem's expertise for delivering the project.

"Barclay Mowlem is a long established company with extensive experience in high rise developments and we were confident they would deliver on time and within budget," said Mr Jewell.

During the initial stages the challenge Barclay Mowlem faced was the demolition of existing floor sections in part of the 14 retail stores.

Barclay Mowlem's Project Manager, Mike Colahan, explained that this was required to allow 1400mm diameter columns and a new lift /service core wall to be constructed through the existing building from new pad footings at Basement level 2.

"Access had to be kept independent of the shops, and extensive liaison with shopping centre management and the client was required to keep them informed of the duration and timing of disruptions," said Mr Colahan.

To protect the monorail, massive steel gantries were constructed over the track, and structural plywood was installed over the frame. In addition, the monorail operators were required to shuttle the service when required to allow for the new tower construction above to proceed.

In December 2003, a 2.5m deep transfer slab at level 5 was constructed in three pours. The

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wide use of post-tensioning, with multi-strand cable in the entire beam systems, reduced the need for extensive reinforcing and grillage.

During construction of the tower, a second tower crane was installed supported on the cantilever section of the massive transfer slab on level 5. Mr Colahan said that he believes this was a first, and it involved extensive engineering analysis.

Another feature of the development is the section of apartment block cantilevered over the atrium of the shopping centre from level 7 to level 39.

"This construction required extensive OH&S control, with areas within the shopping centre below the work cordoned off, and public traffic controllers positioned on each floor to ensure the public did not breach restricted areas," said Mr Colahan.

Mr Colahan explained the scope of the development also included modernising the 25-year-old shopping centre to ensure it blended with the new high-rise development. The irregular profile of the existing building has been "squared up" with the construction of a glazed curtain wall on the east façade of the existing oasis centre. The introduction of vertical and horizontal louvres for thermal and privacy control, which Barclay Mowlem believe is a first for a building of this height on the Gold Coast, has created a unique façade along with the bold Italian yellow apolic cladding on the western elevation. This development is certainly a dominating feature on the Gold Coast landscape, along with being a new and impressive landmark for south-east Queensland.

The interior finishes are also unique for the Gold Coast, with the Sydney based architect bringing a new high standard of design which boasts a flush, clean lines-to-walls-and-joinery look that is very much removed from the old framed architraved and skirtings finishes of the past.

Levels 3 and 4 are built under and hung structurally from the main transfer slab of level 5 and house a new bar and gym facilities with outstanding ocean views.

Levels 5 and 6 consist of two level penthouses with 360-degree views of the hinterland and ocean. The remaining levels, 6 to 36, comprise an assortment of different floor plans and types.

Mr Little said that the Air on Broadbeach project was an extremely challenging and unique project to construct.

"With the dedication and commitment of Barclay Mowlem staff and subcontractors, the Air on Broadbeach project is another prestigious landmark for Thakral Holdings, the Gold Coast and Barclay Mowlem", Mr Little said.



Jeffrey Hills & Associates

JEFFREY HILLS & ASSOCIATES TRADING AS JHA AUSTRALIA OFFERS A BROAD RANGE of consultancy services to the construction industry under one roof. Aside from this division of the business, their technical expertise offers clients advice in a variety of areas such as commercial concrete strengthening and waterproofing systems, as well as dilapidation assessment and repairs; an impressive testament to their 20 years in the business.

JHA originated in Sydney, offering concrete remediation in small and subsequently larger body corporate work. Taking advantage of the need to diversify throughout changing economic climates, the company has consolidated its experience and now specialises in concrete dilapidation surveys and cementitious repair for major commercial construction. It also offers solutions for concrete defects and repairs to reinforced concrete bridges and large strata title buildings.

The firm's Manager of Remedial Building and Civil Services, Mr Adrian Dundas, said that the

Air on Broadbeach project reflected a trend seen currently on the Gold Coast for adding residential towers to existing podium slabs, mostly constructed in the 1980s. JHA's role in Air On Broadbeach beginning well before construction commenced, incorporated intensive dilapidation surveys of the Oasis Shopping Centre and surrounding buildings on adjacent sites, as well as roadways and the Oasis carpark. Mr. Dundas said that JHA's status as an independent company means that all reports and findings are unbiased and eliminates conflict in interests between the developer and neighboring properties who also benefitted from the mutual reports.

"The majority of our work was primarily in the capacity of inspection and assessment, executed using non-destructive testing (NDT) diagnostic equipment, an echo-pulsing procedure which delivers an accurate profile of the concrete's internal state. It was one of the most complex surveys we've undertaken, due to the sheer size of the site and the amount of different structures present," said Mr Dundas. "Our involvement ran smoothly in spite of the challenges. It is our policy to get the work

done without any disruption to the client and we pride ourselves on providing a superior service," he said.

JHA investigated the exterior condition of all buildings associated with construction works. The investigations and reports have been completed in digital still photo and DVD formats. Other considerations included determining the condition of the expansion joints and the possibility of concrete deterioration due to potential rusted reinforcing, combined with the predictable movement and settlement of the building.

Ultimately the company's solid experience and advanced knowledge of materials and methods of repair allowed them to deliver reports which fundamentally informed the integrity and development of the project.

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MATT GROFSKI LANDSCAPING

THE UNCONVENTIONAL NATURE OF THE AIR ON BROADBEACH construction site presented a variety of challenges to the various industries involved in the project. As the residential tower was erected over an existing structure, some serious planning took place in the creation of a modern landscape aesthetic located on the fourth floor.

The space incorporated the complex's swimming pool and sundeck next to the atrium of the shopping centre below. Crucial to the design of the softscaping was the delivery of 400 cubic metres of soil. The task was all in a day's work for Matt Grofski of Matt Grofski Landscaping, engaged by Barclay Mowlem to carry out the work.

"We had to bring soil, plants and other materials up through the carpark in a small truck as the space didn't allow for a crane to reach in. The truck could only take two cubic metres at a time - it was a mammoth effort," said Mr Grofski. The young company which started in the domestic market has been bidding for commercial tenders for the past eight years. In that time they have built a

reputation for versatility, specialising in the installation of unusual hardscape and softscape scenarios.

With a crew of five to tackle the project, the company negotiated OH&S issues that came with the territory. Apart from the arduous task of transporting materials and equipment in a highrise context, the crew used abseiling harnesses to install planter-boxes on the external walls of level five. This was a first and involved detailed safety plans for each individual procedure.

The plan for level four was to juxtapose a formal look with semi-exotic grouped plantings. Moss coloured 500mm pavers with pebbled recesses grace one side of the pool and deck for a refined finish. With the focus on creating an elegant, low maintenance environment, the garden was planted in organic soil and protected with high quality tee tree 'fines'; a superior natural-looking mulch. That simultaneously conserves moisture and nutrients, whilst remaining weed free and termite resistant. An efficient drip-reticulation system was also installed to ensure that no moisture is lost to evaporation or run off.



Unlike ground-up projects, drainage had to be directed through filter-cloth into the stormwater system. It was not possible to recycle water within the structure, because penetrating the concrete which forms the roof of the 25 year old complex below was unfeasible.

Matt Grofski Landscaping were also engaged by the site owners, Thakral, to renovate and redevelop the street-level environs, in keeping with the ultra-modern patina of the tower. For a business that is used to working closer to the ground, it could be seen as a return to more regular processes but Matt Grofski says he looks forward to future endeavours of the same ilk as a way of establishing his company's place in the consciousness of the industry.

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QLD Concrete Drilling & Sawing Pty Ltd



THE CONSTRUCTION OF THE AIR ON BROADBEACH apartment tower demanded top performances from all the contractors involved. Before the work could begin, necessary demolition of parts of the existing structure took place on several levels. On this particular site, local company QLD Concrete Drilling & Sawing's role in demolition work was minimal instead focusing their efforts on what they do best: large diameter and volume core drilling and wall sawing.

The benefits of sawing and drilling with diamond tools include lower total project costs, precision cutting, maintenance of structural integrity, reduced downtime, reduced noise, dust and debris, limited access cutting and the ability to cut heavily reinforced concrete.

With experience in everything from mining to high-rise developments, the company's ten years in the business has crystallised into a tight-knit crew that specialised in the latest drilling and sawing techniques available.

Says the company's proprietor Robert East "We consistently maintain the edge over our competitors on jobs like this because we take pride in our commitment to customer service, professionalism and safety standards. Our policy as a company is to keep up with the latest procedures and processes from overseas including diamond wire sawing, originally developed for use in extracting rock from quarries. The technique takes care of irregular configurations and is ideally suited for cutting concrete thicker than 700mm."

Mr East said that the company's main priority was to supply safer and more cost-effective solutions to the client. "And in the interests of OH&S we make sure that our equipment is replaced regularly and operators are fully trained in all aspects of concrete cutting which is reflected in our 100% safety record over the last ten years," he said.

Using the latest diesel, electric and hydraulic equipment, the industry leader was responsible for providing solutions for a range of on-site situations, including an efficient method of cutting individual door and window openings to specifications. Other jobs presented more extreme challenges. On all levels, core drilling was performed to enable concrete reinforcement but from levels 10 to 30,



the crew took to the exterior of the tower using a swing-stage to cut cores from the side of the building.

Other work involved large scale removal of concrete walls and beams for both cosmetic and structural purposes as well as extensive use of core drilling throughout the building to provide precise conduits for electrical, fire sprinklers and other internal work.

Logistically, the main considerations of the work were operator safety, concrete thickness and reinforcing content; not to mention the issue most critical to all contractors on the site, working around an operational shopping centre in a major tourist area.

Giving his unique perspective on the combined effort that has produced the striking and innovative 'Air On Broadbeach', Mr East kept it simple: "It's a real achievement and one that our company is proud to have been associated with," he said.

At the time of writing, QLD Concrete Drilling Sawing are presently on the site, bringing their work to a close as the construction nears completion.



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Superior Walls & Ceilings Pty Ltd

**SUPERIOR WALLS & CEILINGS IS
A COMPANY FOUNDED ON EXCELLENCE.**

Consistently exceeding the expectations of their clients the company is a proven performer. Cool clean lines required for the "Air On Broadbeach" project saw Barclay Mowlem and Superior Walls & Ceilings team up for the challenge.

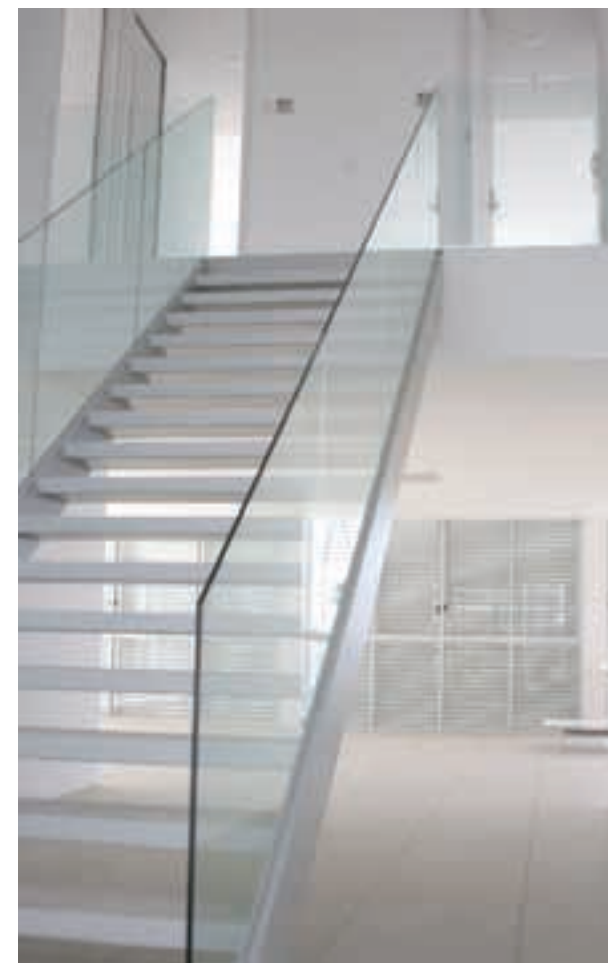
A challenge is was, little tolerances and flush finishes required a tight control on quality, the call of do it right the first time meant no come backs and a excellent result.

The project, "Air On Broadbeach" is a landmark 32 level residential tower requiring exceptionally high quality fit outs in its 132 apartments. Barclay Mowlem engaged Superior Walls & Ceilings to carry out the internal linings, fire and carpentry works on the project.

Air On Broadbeach also required high client expectations on acoustic performance, as designed by the acoustic consultant. Superior Walls & Ceilings was instrumental in ensuring the final acoustic levels met with the consultants strict parameters.

Superior Walls & Ceilings is proud to be associated with Barclay Mowlem in the construction of this truly unique residential tower.

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Queensland Showerscreens & Wardrobes

**ONE OF THE FINISHING
TOUCHES TO THE STUNNINGLY
CONTEMPORARY** Air On Broadbeach apartments was the creation of beautiful bathrooms. Making a significant contribution to the finished interiors, relative newcomer to the scene QSW delivered a superb result.

Despite its short history, company director Mr. Kerry Mc Lean explained that the combined experience of his 63 staff members had created a dynamic industry presence in just 18 months. The company found its feet when the senior management members decided it was time to bring their considerable wealth of experience to the marketplace, and by combining respective client portfolios they have effectively secured a niche in the commercial sector of the building industry. In spectacular style, QSW has blitzed the proverbial competition, turning over \$7 million in the last financial year.

Offering an elite service that incorporates the design and installation of prestige glass components is just one aspect of the

company's palette. More specifically, they specialise in showerscreens, mirrors and splashbacks for bathrooms and kitchens. Other products and services include sliding wardrobe doors and internal robe cabinetry, as well as frameless glass balustrading.

For the current project, QSW was asked to focus primarily on the bathroom and kitchen surfaces. The brief described a sleek, ultra-contemporary look for the bathroom interiors in the spirit of the architect's design. Reflecting the concept, the rooms are a statement of clean lines and gleaming expanses of glass undisturbed by beading or frames. Colour-backed glass walls and splashbacks provide design counterpoints to frameless showerscreens.

The split-level apartments extended the theme with the installation of frameless glass balustrades on the staircases, doing away with the busy design aesthetic of the past. Visually, the effect is a beautiful, vertical surface that appears to float in mid-air. The result is a

sophisticated interior based on simplicity and minimalism - an unbeatable formula.

Mr. Mc Lean said that separate contractors on the site were "blown away" by the work carried out and added, "The outstanding results speak for themselves and we maintain our edge because we strive to give our clients the quality finish they expect." Currently QSW are involved in numerous commercial projects spread over three states.

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