## Quality and care in construction

### PAVILIONS

RESIDENCES

by mirvac



# Delivering quality and care for over 47 years

For over 47 years Mirvac has been at the forefront of the Australian development and construction industry, recognised by our peers through more than 700 industry awards and by customers who have rewarded our absolute commitment to quality and care with their loyalty.

We are not tempted to cut corners nor compromise on the quality of materials we use. Industry leading practices, established over many decades, have been employed in the construction of Pavilions at Sydney Olympic Park, a project that stands proudly within the Mirvac portfolio of iconic buildings that are testament to our promise of quality and care in every little detail.

Since construction of Pavilions began in 2017, we have followed a regime of testing, checking and double checking at every milestone, ensuring the critical elements of construction meet national standards – and the expectations of our customers.

Our unique integrated business model enhances our ability to problem solve and innovate, and also means that we are accountable and responsible from beginning to end. Customer concerns are dealt with responsibly by our dedicated Post Completion team.

Our focus on detail and quality control for each stage of construction provides our customers with peace of mind. That's the Mirvac Difference.





# Spot the Mirvac Difference

When you buy an apartment off the plan, or one that has been newly built, there are few clues to what lies behind the walls, beneath the floor or deep down at its very foundations. The onus is upon the developer and builder to abide by standards and legislation – even when nobody is looking.

With 70 per cent of a building's built structure out of sight, knowing who you can trust is critical to making a wise property decision. And this is where our reputation matters. The evidence of Mirvac's capability can be seen right around Australia, our buildings bearing witness to a company that has always put quality ahead of all other considerations.

The outstanding Mirvac reputation has resulted in extraordinary levels of customer loyalty with 30 per cent of new projects purchased by our existing customers. We have worked hard to earn this trust and guard our reputation.



#### MATERIALS

We test and we test again, and we investigate the supply chain.

We don't just assess the durability of our benchtops and internal finishes but every element that goes into the construction of our buildings – the concrete, the grout, the steel and the precast slabs. In other words, the 70 per cent of a building that you never see and should never need to think about as long as your builder does.

Pavilions is constructed primarily of concrete, glass, brick and solid aluminium panels – honest, hardworking and durable materials.

The concrete we pour is monitored at regular intervals, to check its compressive strength ensuring the correct strength concrete is used in every location..

Precast concrete manufactured offsite is checked by our structural engineer as required, a practice that goes above and beyond the industry standard.

As part of our procurement process, the windows installed at Pavilions are tested to ensure they are Australian Standard compliant and able to withstand extremes of wind and rain. There are a number of different types of glass that have been used at Pavilions, each with different characteristics but delivering multiple benefits in terms of thermal and acoustic performance, and safety.

Material	Checks & tests
Concrete & Precast	Prepour and post-pour including design engineer verification check
Precast concrete	Checked by structural engineer
Glazing System	Water and wind tested
Hebel	Installation periodically checked by manufacturer
_ouvres/ palustrades	Checked by design engineer and façade engineer
Stud walls	Installation periodically checked by manufacturer
Steel fire stairs	Checked by design engineer and third-party engineer



#### STRUCTURAL INTEGRITY

Our reputation depends on doing the right thing even when nobody is looking. We keep a detailed record of construction as it develops which is stored on an advanced technology platform.

At Pavilions we engaged BG&E as our structural engineers, a top tier international consultancy with a 50-year track record and more than 120 high rise buildings to their credit. BG&E work closely with the Mirvac design and construction teams to ensure their intent is met, certifying the completed structure and façade related elements for compliance. The Senior Structural Engineer was located onsite fulltime for the critical first six months during the laying of Pavilions' foundations and basement structure.

All designs are checked by a totally independent in-house engineer prior to being released for construction and the entire structure 3D modelled at critical points. Deflection controls at Pavilions have been designed to the maximum Australian Standard to limit future movement.

Although it is not mandatory, we also appoint an independent third-party checking consultancy to check the integrity of the structural design at key stages.

Precast panels and columns are fabricated offsite in a controlled factory environment where a higher level of quality control can be achieved.

Regular risk reviews are held looking at Work Health & Safety in design as well as functionality and end use within the design.

Major milestone	Pavilions standard	Industry minimum
Structural design phase	Design reviewed by third-party consultant	Not required
Concrete slab pour	Pre-Pour inspections are carried out prior to concrete pours	Periodic inspections carried out for a representative sample of pours
Pour of precast panels	Regular inspections at precast factory by structural engineer. Certified by the fabricator	Certified by fabricator



#### ON SOLID GROUND

In our world, too many checks are never enough, and it begins long before we get out of the ground

In addition to exhaustive checks on the built structure we engaged Douglas Partners Geotechnical Consultants to undertake the initial geotechnical investigations right through to inspection of foundation excavations and onsite testing. They have certified that the Pavilions buildings are founded in bedrock of sufficient strength to support them.

JBS & G Environmental Consultants undertook multiple assessments relating to the environmental condition of the site, confirmed the subsurface below the entire carpark excavation to comprise of natural undisturbed clay and shale bedrock and certified by an independent NSW Site Auditor.



#### WATERPROOFING

One of the most common defects reported in Australia is damage related to water ingress, caused by substandard waterproofing.

At Mirvac our window systems are put through rigorous testing to ensure water tightness. We pay special attention to balconies, one of the most common sites for water ingress, ensuring the surface is meticulously cleaned and prepared before laying the waterproofing membrane. Pavers "float" above the balcony making future maintenance easy.

A similar process is carried out on rooftops where all debris is removed before application of a waterproof membrane. In trafficable areas pebbles are laid to provide a second layer of protection to the membrane.

Bathrooms and ensuites within your apartment have been manufactured off-site in a controlled environment. The fully waterproof prefabricated pods are installed onsite and then we turn on all showers and taps to test for leaks.



#### FIRE SAFETY

Fire safety is paramount whether it relates to the selection of materials or tested design systems to prevent the ignition and spread of fire.

Material used in the construction of Pavilions, from the glass in the windows to the concrete, brick and solid aluminium has been verified by Warrington Fire, world leaders in fire testing, inspection and certification.

Fire safety is integrated throughout the building, using approved systems for fire alarms, sprinklers, emergency exits and fire stopping measures to prevent the rapid spread of flame. Fire and Rescue NSW (FRNSW) undertake a comprehensive walk and check of the fire safety systems, then a final safety report and fire safety system report is required from FRNSW prior to the issuing of an Occupation Certificate.

The Building Code of Australia has recently been updated, providing occupants of highrise apartments with greater confidence that their building is safe and compliant. Some of the fire safety measures you will recognise at Pavilions include:

- Smoke detection and occupant warning systems.
- · Fire isolation of exits, such as exit stairs.
- More than one exit for each storey to allow alternative means of escape should one exit become unusable.
- Stair pressurisation to exclude smoke from exit stairs.
- Fire sprinklers.
- Fire resisting construction to limit the spread of fire between apartments and between storeys.
- Non combustible external walls.
- · Resistance to collapse as a result of fire.
- Features to assist fire brigade operations, such as fire hydrants.







Mirvac has the ability to attract and retain the best people across every facet of the design, development and construction industry. We look after them, train them and support them with career pathways for growth and development.

Our construction staff are all trained in an industry approved Quality Assurance Process and we rigorously screen subcontractors before engaging them, reviewing past experience, quality and ability to perform the job.

Our inhouse development managers, planners, architects, interior designers, site managers and construction supervisors have decades of experience, some more than 30 years with Mirvac. We do not shift responsibility for construction onto third parties but manage it internally through our own construction supervisors.

Where we require specialist skills, we hand select our consultants, engaging only with best in practice experts with a proven track record. We nominate the key senior personnel within the consultancy to be available for the duration of the project and won't accept delegation to a less qualified or experienced person.

#### WHO IS BUILDING PAVILIONS?

The project team behind Pavilions includes some of Mirvac's most talented and experienced people, each of them bound by a shared goal to uphold the Mirvac legacy.

Glenn Construction Manager 36 years

Paul
enior Site Manager

Malcolr Forema 24 year

**Snezana** Project Architect 23 years















**Daniel** enior Project Manager 19 vears



Graham
Project Direct



Matthew Project Manag 14 years













## Quality and care in every little detail

#### THE MIRVAC DIFFERENCE











For over 47 years we have been reimagining urban life in Australia - creating exceptional living experiences through the pursuit of quality and care in every little detail.

### AWARD WINNING EXCELLENCE SINCE 1972, WE HAVE WON OVER 600 AWARDS INCLUDING.

National Udia

Best Residential Development - 2019

> Brighton Lakes Moorebank, NSW

Australian Institut of Architects

Lloyd Rees Award Urban Design -201

Harold P NSW Australian Institution of Architects

The Lord Mayor Prize - 2019

NSW

ustralian Institute

Sustainable Architecture - 2019

My Ideal House Bledswood Hills, NSW

It's in the detail.



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