

# WVAIS



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## Context

The Western Australia Institute of Sport (WAIS) is a new sports science, research and recovery building which provides state of the art training and testing facilities for Olympic, Paralympic and Commonwealth Games athletes. The facility is not only dedicated to elite athletes and the creation of sports champions. The institute also nurtures emerging athletes aspiring to state and national team selection.

The form of the building design responds to the nature of the organisation it houses, as well as the context of its surroundings.

The brief required an elegant design that embodies all of the institute's functional requirements.

Our design solution provides a powerful symbol within an elite sports precinct. The articulation of the athlete's physique in the built form embodies the organisation's purpose: to provide opportunities for talented Australian athletes to achieve excellence in elite sport in an outstanding environment.

WAIS was recognised for design excellence in the 2016 AIA Awards with an Award for Public Architecture.

Collaboration: Sandover Pinder

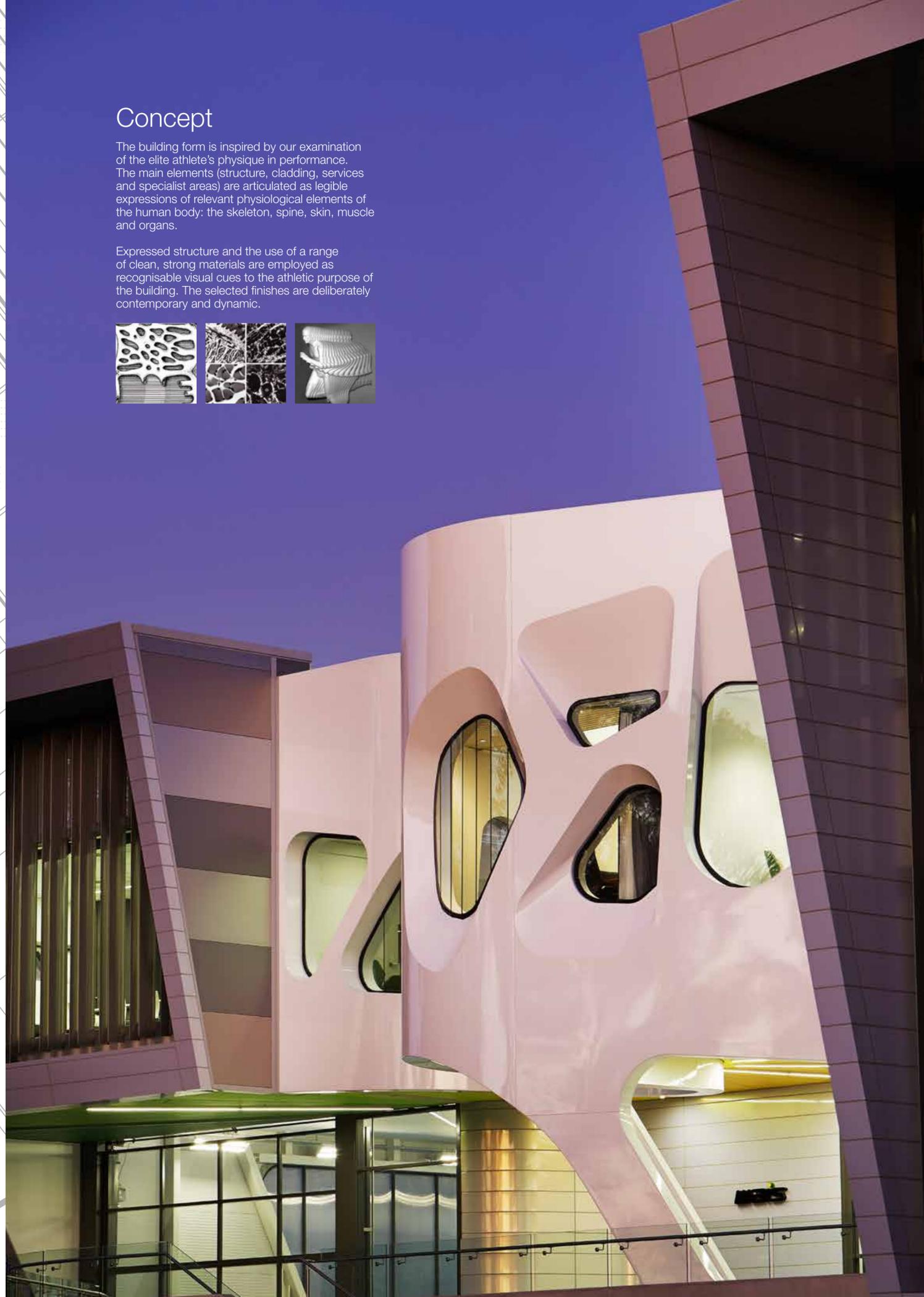
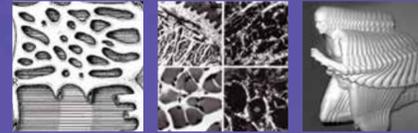


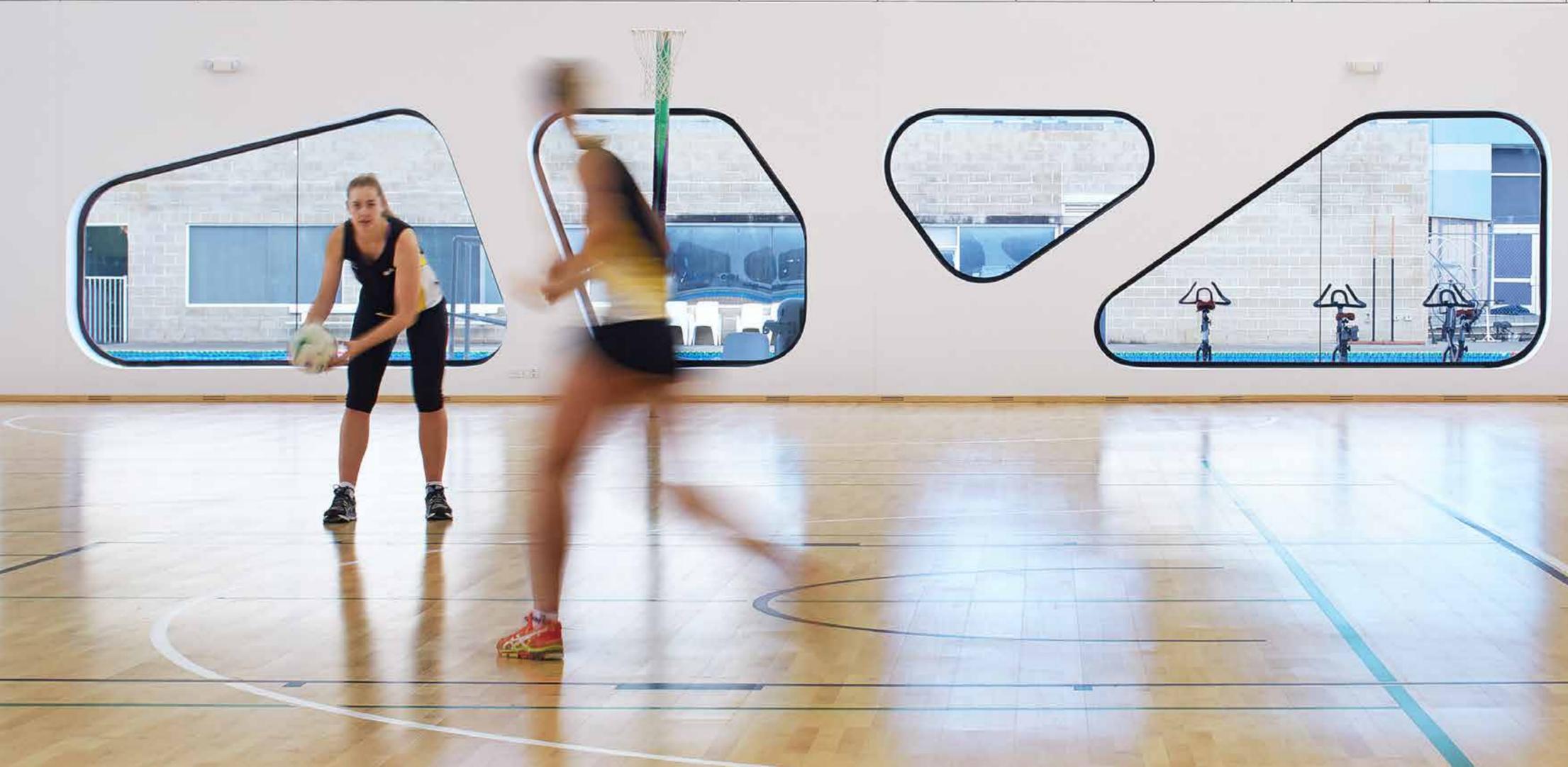


## Concept

The building form is inspired by our examination of the elite athlete's physique in performance. The main elements (structure, cladding, services and specialist areas) are articulated as legible expressions of relevant physiological elements of the human body: the skeleton, spine, skin, muscle and organs.

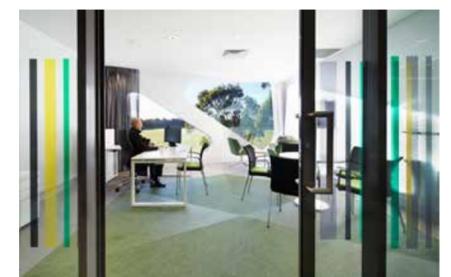
Expressed structure and the use of a range of clean, strong materials are employed as recognisable visual cues to the athletic purpose of the building. The selected finishes are deliberately contemporary and dynamic.





## Function

The new centre supports close to 300 athletes across 28 sports in 14 dedicated programs. It incorporates a strength and conditioning gym, warm and cold water recovery pools, multipurpose sports testing area, indoor mechanical incline runway and pole vault testing area, sports physiology laboratories including an environmental chamber, indoor sports hall and office accommodation. The space planning optimises visual and physical connectivity.





### Elite Recovery

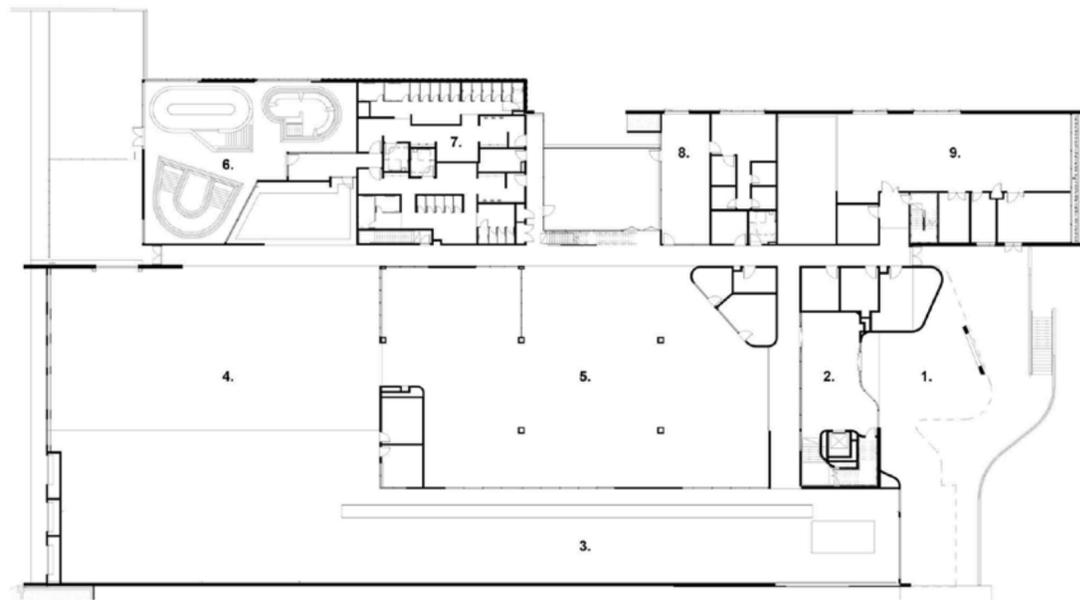
Providing a positive means to recover and restore the muscles, Australia's most advanced hydrotherapy centre is integrated into WAIS. The cold pool (12 degrees), active recovery pool (28 degrees) and warm pool (38 degrees) are accessed via the change rooms, which act as transition zones between wet and dry areas.

## Meeting the Brief

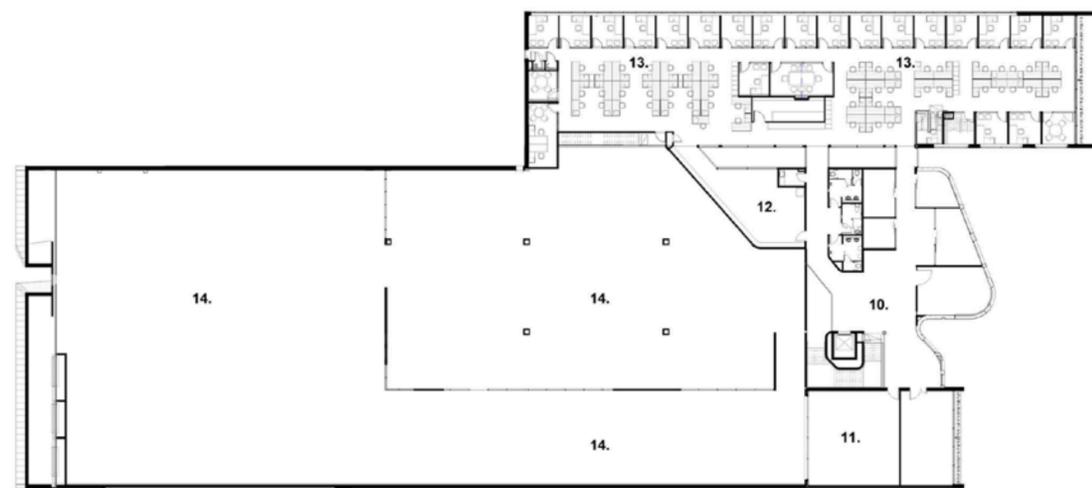
A central walkway forms the building 'spine' and is an important point of interaction between athletes, coaches and sport specialists. Visual connection throughout the centre encourages interaction between diverse sport disciplines and maximises engagement between athletes, coaches, sport specialists and management.

Connectivity between the administrative first floor and the testing and training spaces at the core of the building takes advantage of increased height and voids to allow everyone in the organisation to visually interact with the heart of the facility.





GROUND FLOOR PLAN



FIRST FLOOR PLAN

## Planning

Strategically planned extra space around each exercise station allows plenty of room to move for disabled athletes, which will result in a record number of 17 Paralympians making the trip to represent Australia in Rio 2016.

The 'altitude hotel' allows athletes to sleep and live in a simulated altitude environment; where heat, humidity and altitude can be independently controlled.

- LEGEND
1. FORECOURT
  2. ENTRY
  3. INDOOR TRACK
  4. MULTI-PURPOSE SPACE
  5. STRENGTH & CONDITIONING
  6. RECOVERY POOLS
  7. ATHLETE CHANGE ROOMS
  8. ATHLETE RECREATION SPACE
  9. SPORTS SCIENCE LABS
  10. EXECUTIVE OFFICES
  11. TRAINING ROOMS
  12. STAFF HUB
  13. ADMINISTRATION
  14. VOID

## Innovation

Sports science technology and innovation is integrated throughout the building. WAIS is the Australian Centre of Excellence for throwing and jumping sports.

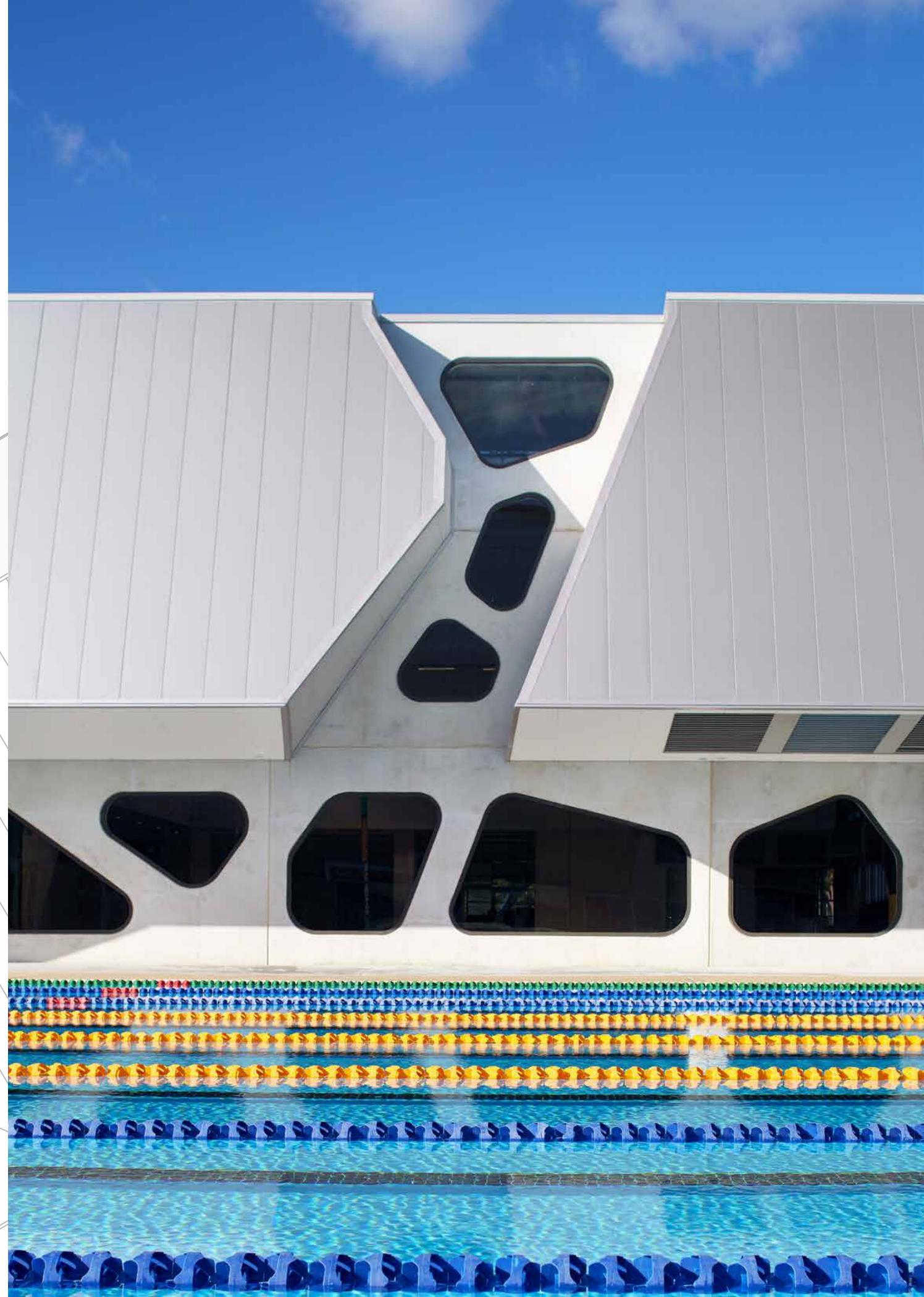
A bespoke designed 48m long mechanical ramp is integrated into the 6 lane indoor runway, it rises on hydraulic rams to provide an incline to assist pole vaulters to pick up speed when approaching the pit. The result enables the athletes to expend energy on practicing their plant and vault rather than on reaching required speed to vault effectively.



## Evolving the Typology

In order to test, record and analyse the performance of athletes, specialist cameras and force plates are integrated into the architecture as well as recesses, rails, power and data connections. Cameras are able to capture every single angle to allow for analysis of technique, identifying opportunities for improvement.

Cameras and digital screens are also provided outside for swimmers.



## Sustainability

Sustainability initiatives include photovoltaic array, solar hotwater, heat exchange system which uses expelled mechanical heat to heat poolwater, high velocity evaporative cooling in large volume sports training and testing areas, rainwater tanks, high R-value insulated wall and roof panels to reduce heat load and low maintenance landscape solutions. Passive strategies utilised are shading of openings, building orientation, good access to daylight and effective building envelope insulation and sealing.

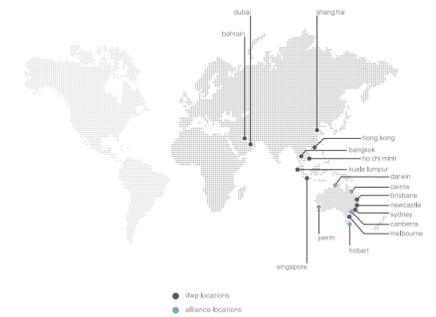


## Team Spirit

The main entry ceiling references the green and gold of the Australia team colours, reinforcing team allegiance with the intention of reminding the athletes that this facility puts them in front of competitor nations, building their confidence, winner's attitude and motivation.

Providing additional value to the community, the design extends the purpose of the facility to become an enabler of broad societal benefits related to the health and fitness of Australians by encouraging greater participation in sport and physical activity.

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Sustainability is our commitment to future generations. To protect our environment and our society we champion sustainable design, economic responsibility and social conscience. We use Building Information Modelling (BIM) to provide an immersive experience to our clients that facilitates decision making. Seamless coordination, community engagement and cost certainty are a few of the benefits.

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‘ This is an extraordinary building with extraordinary facilities. If you look around this building, there would be nothing in Australia to rival it ’

Colin Barnett  
Premier Western Australia

