

MAKING A SPLASH

The Stromlo Leisure Centre project is one of Australia's first long spanning mass timber construction examples incorporating construction techniques practiced in Europe for centuries. The project consists of a 50m Olympic Pool, 20m learn-to-swim pool, leisure pool and splash park, plus reception, kiosk, administration offices and change rooms. In addition to the extensive aquatic facilities, the centre incorporates additional leisure facilities such as a gym, café and various external recreation areas for triathlon and community groups.

The \$36 million Stromlo Leisure Centre project for the Australian Capital Territory Government includes an 8-lane FINA compliant 50m exercise pool, a 20m multi-purpose pool, a leisure pool and splash park and supporting facilities including a café, gym and external fitness and recreation areas.

Working with a large consulting team, Kane Constructions fully designed the new facility from the start. Kane submitted a preliminary design as part of the tender stage and have now taken that through to construction.

One distinguishing feature of Kane's design is the glue laminated timber 'glulam' roof structure which is designed to provide a connection to the surrounding Stromlo Forest Park.

The roof is one of the first of its kind in Australia. The company did the engineering in Australia, it was manufactured in Europe and imported. There was about a 10 month lead time from design to arrival onsite.

The lead time for the roof drove the entire construction programme. They had to lock in the building envelope and fire compartment design very early on. Everything then had to be built to the exact relative level and dimensions to ensure the roof fit perfectly onsite.

As well as providing a distinguishing design feature, the glulam roof brought other benefits. It's a sustainable material which also brings maintenance benefits. The timber is really well suited to the aquatic environment.

During construction, a range of challenges had to be overcome. The site was formerly a dump site with uncontrolled fill which Kane had to remove and replace with new soil. They could then use a piling machine and rig to drill the piles which are at many different heights. The site is sloping so on one side the piles are deeper than on the other.

The pool construction itself required significant quality checking to prove the pool was watertight before the surrounding enclosure was built. Kane built the envelope around the pool which dictated an already challenging programme. The structure also spans over the balance tanks for the pool which influenced the construction sequence.

The entire facility has been designed with an eye for detail and a strong sense of place. The building

features curtain wall glazing which is oriented to capture views towards the city and Black Mountain. Throughout the scheme the overall quality of the finishes we have used sets the project apart.

Kane is a national company with offices in Melbourne, Sydney, Brisbane and Canberra. Since commencing operations in Melbourne in 1973, Kane have established themselves as one of Australia's leading construction companies. Kane have delivered projects in the Australian Capital Territory since 1991 and opened their Canberra office in 2016. The Stromlo Leisure Centre will be the latest addition to a portfolio of successful projects in Canberra and surrounds which includes the Manuka Oval Broadcast Centre and the Queanbeyan Sports Centre which received a National Master Builders award.

Kane are a multi-award-winning company having also been awarded the 2016 National Commercial Master Builder of the Year by Master Builders Australia as well as Master Builder of the Year 2019 and Master Builder of the Year in Victoria for 2016 and 2017.

The Stromlo Leisure Centre project is another example of Kane's culture of professionalism, competence, integrity and enjoyment – referred to as "The Kane Way." This is reflected in their philosophy that "success is recognised in the way we achieve, as much as what we achieve."

For more information contact Kane Constructions, Level 1/24 Bougainville Street, Manuka ACT 2603, phone 02 6203 4200, email actcontact@kane.com.au, website www.kane.com.au



The **longest spanning glulam roofing structure** in Australia covers a 50 metre swimming pool. While common throughout Europe and other parts of the world, large timber framed structures are still a rarity in Australia. The **glue laminated timber** in this job provides a connection between the building and the natural landscape of the Stromlo Forrest Park. The roofing structure is composed of **47 metres main beams**, spaced with 7 metre rafters. The entire structure is hold by a tree-shaped struts engineered connection made of tapered glulam. **Rubner Holzbau** provided technical advise during design fase, the entire engineering of all the glulam as well as the steel connections and base. 100% of the materials were manufactured in Bressanone, Italy.



Rubner Holzbau is the leading company in Italy and Europe in the construction of **timber buildings** and **large Glulam and CLT structures**. The use of Glulam and CLT ensures excellent structural, seismic and sustainable performances, and offers endless architectural designs and innovative potential. Our highly engineered and prefabricated structures enable fast production and quick assembly, as well as high energy saving standards.

Unique in its industry, Rubner Holzbau provides a **complete Service**, from Production of its own Glulam and CLT to the complete Project Engineering of your Design, to the On-site Delivery anywhere in the world. As an added value, Rubner Holzbau can also provide the site assistance of its timber structures, thanks to its crews of expert, long-time installers.



RUBNER HOLZBAU Srl
Via Alfred Ammon, 12
39042 Bressanone (BZ) - Italy
+39 0472 822 666
holzbau.brixen@rubner.com
www.rubner.com/holzbau

In partnership with:

THECA AUSTRALIA
17 The Concord
3083 Bundoora, VIC - Australia
Mr. Paolo Aschieri - Mr. Adam Shears
+61 481 707 561 - +61 417 317 866
paolo@theca.com.au - adam@theca.com.au
www.theca.com.au

Credits: Cox Architecture, Kane Constructions

Below CPS Concrete Group utilised their reinforcement and landscaping divisions for the Stromlo Leisure Centre.

CPS Concrete Group, a local Canberra company specialising in commercial and domestic concrete work, were contracted for a range of works on the Stromlo Leisure Centre including landscaping, reinforcement, concrete placing and steel fixing.

CPS Concrete Group was founded 30 years ago with a focus on concrete pumping, placing and finishing but has recently become more diverse. “For the last three years we have offered reinforcement and landscaping services,” said Director, Tony Costanzo. “Recently we also added post tensioning services.”

“Our landscaping and reinforcement divisions have their own dedicated crews with the capacity to deliver small or large projects,” said Tony.

“There are two different parts to our landscaping business – softscapes and hardscapes,” said Landscaping Director, Johnny Costanzo. “At Stromlo Leisure Centre both parts were involved and we delivered pavements, tree planting, soil grading, artificial grass, turfing and irrigation.”

“The landscaping design was by the landscape architects Redbox,” said Johnny. “We developed the design in a few areas to enable it to meet the client’s desired look and feel and then completed the works.”

The Stromlo Leisure Centre site is large and sloping in parts which resulted in a complex landscaping package. One key challenge for CPS was the construction of the retaining wall which had a very short lead time for construction after the receipt of building control approval.

In addition to the landscaping works, CPS were also contracted to deliver reinforcement, concrete placing and steel fixing packages. “Onsite we had a crew working for the main contractor Kane and a separate crew working for the swimming pool contractor, Crystal Pools,” said Tony.

“The project involved a lot of complex concrete and reinforcement works,” said Tony. “The design was intricate with many different aspects, for example the off-form concrete columns were clad in imported timber so perfect finishes were required.”

CPS have a long history of working with Kane, having been involved on projects such as the Manuka Media Centre for which they provided reinforcement, concrete placement and landscaping works on a highly technical and challenging design. “We have had a good relationship with Kane since the very first job we did with them” said Johnny.

“Overall the Stromlo Leisure Centre was a great project to work on with Kane and we are proud of what we have delivered,” said Tony. “We had some tight time constraints to work with and we managed to deliver the project on time.”

Over the years, CPS Concrete Group has built a strong reputation for their ability and willingness to adapt to challenging project designs. They have developed excellent working relationships with many large builders in Canberra.

With mobile placing boom pumps ranging in size from 28-52m and tower placing booms ranging from 28-36m, CPS has the right equipment to suit all projects. They have a proven track record of completing large projects within tight deadlines and budgets while meeting the highest quality standards. As they have grown, CPS have retained the flexibility to deal with unforeseen problems when they occur in order to complete the required tasks and ensure successful project completion.

“We are a family run business,” said Tony. “We have grown to have the capacity and capability to take on jobs of any size while still retaining that family oriented mindset.”

For more information contact CPS Concrete Group, Unit 7, 63-65 Wollongong Street, Fyshwick ACT 2609, phone 02 6228 1552, fax 02 6228 1529, website www.cpscg.com.au





Below ABS Façade were engaged to complete the full façade engineering, supply and installation.

ABS Façade is an Australian industry leader in all aspects of façade works including commercial façade installation, combustible cladding rectification, modular façade systems and prefabrication, cross laminated timber, curtain walls and high rise glazing. Stromlo Leisure Centre in Canberra is the latest in a long list of successfully completed projects by ABS Façade.

ABS Façade was contracted to provide façade engineering, supply and installation for the full façade of the project which included window walls, punched out windows, fibre cement and aluminium cladding, as well as fibre cement internal finishes to the pool concourse and entry foyer.

The Stromlo Leisure Centre was conceived as a highly energy efficient project and ABS Façades played a major role in achieving this. “The sustainable nature of the construction made it more interesting and challenging to deliver,” said Charl Archer, Project Manager. “The window walls were designed to tight constraints, it was a high rise design in a low rise application to deliver high strength and thermal performance. This allowed the glazing to perform higher to maintain the internal temperature and reduce the load on the mechanical systems.”

As well as completing the installation works, ABS Façade was also appointed to finalise the façade design. “One of our strengths is our ability to tailor designs to achieve the design intent of the project,” said Charl. “For this project the aluminium curved feature walls were more detailed than a standard building to achieve the complex geometry.”

The construction sequence also presented some challenges for the façade installation works. “We had to be adaptable and find ways that was more applicable to the project than the standard way of working,” said Charl.

“Some sections of the façade were installed via a mini crawler crane from the inside instead of the normal installation method from the outside.”

“We also had to make sure that the plant equipment we used was sized to meet the weight constraints and exclusion zones of the slabs for the internal works.”

ABS Façade has been working closely with the project team to ensure the project is completed efficiently and successfully. “We have worked with Kane Constructions before on previous projects and we had an open and collaborative way of working with all the contractors onsite,” said Charl.

Another strength of ABS Façade is their ability to ensure timely and high quality delivery of projects of all scales from smaller projects to large developments. Their industry leading approach to onsite training and equipment use, combined with cutting edge design, engineering and fabrication technologies, helps them minimise onsite time resulting in reduced disruption and cost.

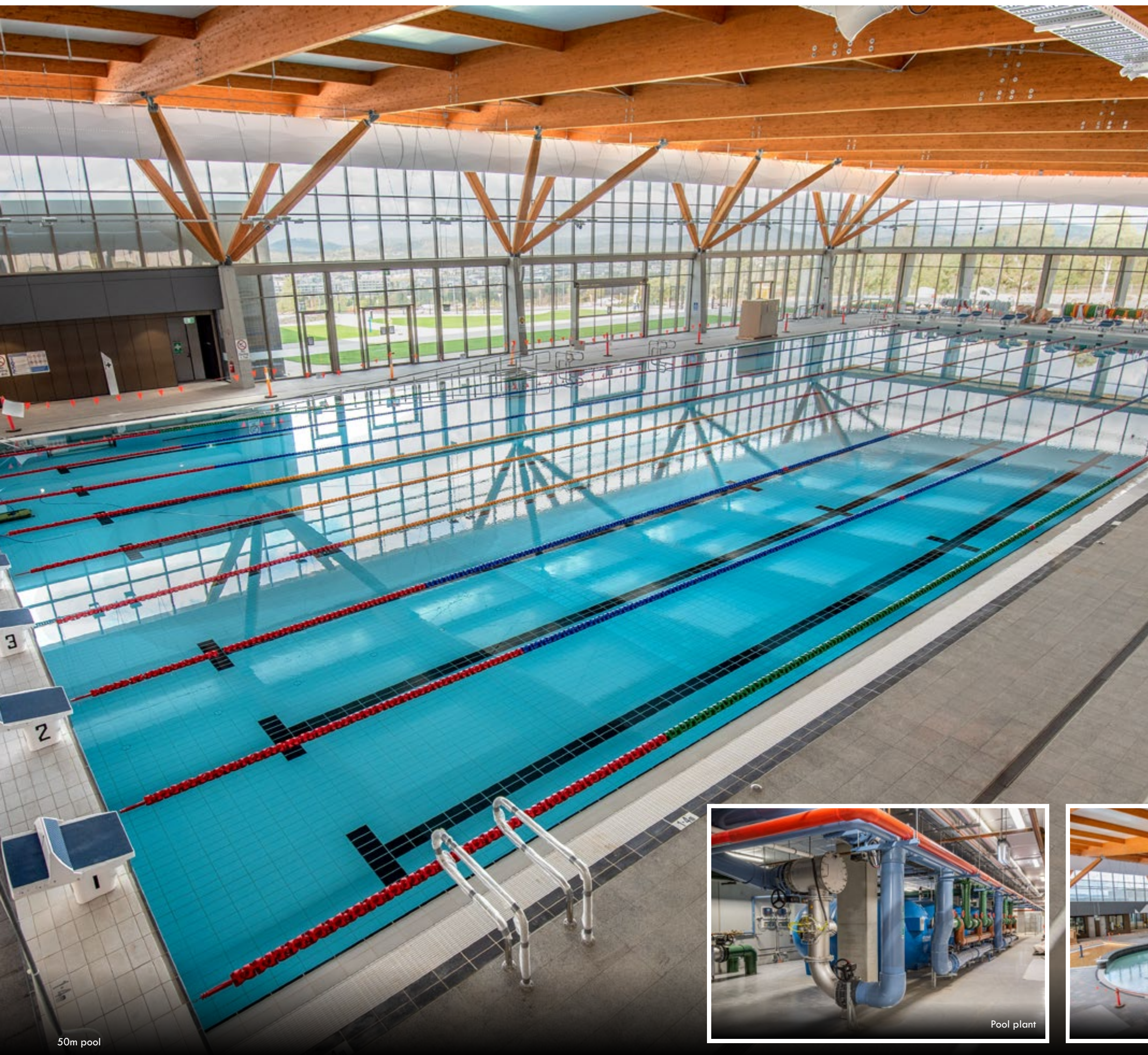
In addition to their expertise in façade installation, ABS Façade is a specialist in façade rectification, replacement and renewal. They understand the challenges associated with working in occupied buildings and ensure minimal impact on a building’s functionality during rectification works. They have developed streamlined systems to replace existing combustible façades to comply with all current fire standards and are also specialists in water leakage rectification and aesthetic façade modernisation.

With vast industry experience, a widespread and mobile workforce, and use the best practices and technologies allows ABS Façade to offer an unmatched level of quality, service and professionalism on all their projects.

ABS Façade boasts a workforce of over 300 employees and a national presence across six offices Australia wide. They have been involved in some of Canberra’s largest building projects including the Australian National University as well as a wide range of other projects across Australia.

For more information contact ABS Façade, 28 Sheppard Street, Hume ACT 2620, phone 0417 984 607, email enquiries.act@absfacade.com.au, website www.absfacade.com.au





50m pool

Pool plant

ENGINEERED FOR EXCELLENCE

Geoff Ninnes Fong and Partners (GNFP) is a market leader in Aquatic Engineering throughout Australia, and recently completed the design of the swimming pools at the new Stromlo Leisure Centre in the Australian Capital Territory.

Brad Fong, Director of GNFP, was involved throughout the preliminary tender phase, detailed design and construction phases of the project. Initially GNFP assisted Kane Constructions with preliminary tender design of the pool to enable costings to be undertaken for them to win this project on a design and construct basis. GNFP was then engaged by Kane Constructions to undertake detailed design and inspection services for the pools to deliver the project.

Features of the project design from an aquatic perspective were:

- Indoor 50m x 20m pool with movable boom, 1.40m to 2.0m deep with full men's water polo capability. Recessed below pool deck lane rope storage.
- Combined Learn to Swim pool 20m x 10m x 1.1m deep with Leisure Pool and Toddlers' Pool approximately 400m².
- Splash Pad 320m² approximately.
- Associated balance and backwash tanks.
- All pool structures piled to rock which was at considerable depth, including pipework beam encasements to avoid differential settlement between pipework

and pool structures.

- Sand filtration with UV and chlorine disinfection as per the design brief.
- All pools including splash pad were tiled using Metz tiles and adhesives.

The site ground conditions were particularly challenging, consisting of deep fill and boulders overlying clayey soil and bedrock up to over 10m deep in some locations. Although a number of foundation options were considered by the builder, ultimately the pools had to be piled to rock to avoid differential settlement of the pool structures, particularly in view of the pools having a wetdeck.

The tolerances required for a wetdeck pool to remain operational and level for water to flow evenly over its perimeter are very stringent, in the region of 3mm to 4mm. Hence, there was no option but to pile the pools to bedrock.

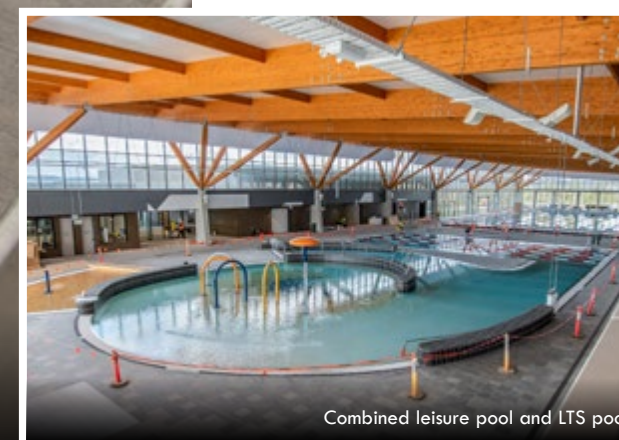
The Leisure Pool design evolved with Cox Architects in Canberra to enable interaction of very shallow water, in pool spa seating, massaging jets, water play, aqua aerobics and learn to swim.

A significant length of concourse area intrudes between the learn to swim and leisure pool providing not only separation between learn to swim and leisure activities, but also an area where life guards may monitor activities in both pools readily, and aqua aerobics instructors are able to stand and easily carry out their lessons.

A large splash pad area with slides, water cannons and tipping bucket provides an ample area of water play for children. Separation of the toddlers' pool from the leisure pool is achieved via a raised wall to minimise the chance of babies entering deeper water.

Overall the centre is a well designed, high quality, modern aquatic facility.

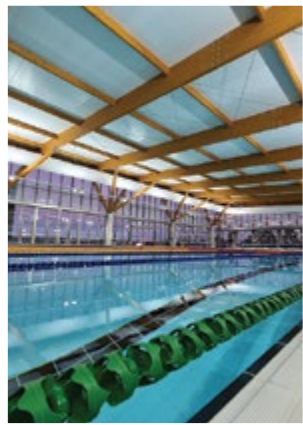
For more information contact Geoff Ninnes Fong and Partners, 68/70 Crown Street, Woolloomooloo NSW 2011, phone 02 9332 5100, fax 02 9331 2963, email bradf@gnfp.com.au, website www.gnfp.com.au



Combined leisure pool and LTS pool

Below AC&R Catering Equipment provided the stainless steel servery and kitchen for Stromlo Leisure Centre.

Below JCL Electrics were responsible for the feature lighting, LED lighting and cable reticulations and light fixtures.



AC&R Catering Equipment specialise in the design, supply and installation of equipment, stainless steel benching and kitchen exhaust systems. They were appointed to provide kitchen and servery installations to the café in the Stromlo Leisure Centre. “We did all the functional drawings and detailing including services connections,” said Peter Smith, Sales Manager. “We worked to develop the design in order to meet the client’s requirements and were on track to start onsite in December 2019.”

They were required to meet special requirements for the pool environment. “There were two different grades of stainless steel used on the project,” said Peter. “The normal grade is 304 and we also used grade 316 which is tolerant to the chemicals that are used in the pool.”

AC&R is a family owned and operated business that has been supporting the Canberra hospitality industry for over 48 years. The AC&R’s extensive showroom in Fyshwick has qualified and experienced chefs with over 144 combined years of service. In addition they have a qualified mechanical engineer who carries out certification inhouse, all sales staff complete industry training courses on a regular basis and gained the C.F.S.P. (Certified Food Service Professional). Peter has instructed within the TAFE college

and attends design workshops and seminars throughout Australia and overseas. They have a fully operational commercial kitchen as well as a complete range of commercial kitchen equipment and bench top items on display.

AC&R are the preferred local dealer for many premium equipment brands, and offer an after sales service that is second to none. They provide inhouse certification of all designs and installations to the relevant Australian Standards. The company provides a complete service from design to fabrication, installation, finishing and onsite training for commercial projects of all types and scales.

AC&R has designed and supplied commercial kitchens to leading clubs, restaurants, hotels, schools, retirement villages, cafes and airline catering services in Canberra and around Australia. They have previously worked with Kane Constructions on a range of projects including the recent Manuka Oval Media Centre and DNATA Flight Services at Canberra Airport.

For more information contact AC&R Catering Equipment, 10 Kembla Street, Fyshwick Canberra ACT 2609, phone 02 6280 4088, email reception@acandr.com.au, website www.acandr.com.au

JCL Electrics is an electrical and communications contracting company with a proven track record committed to the local business community, providing competitive pricing, performance, quality and ability to deliver projects on time and on budget. The Stromlo Leisure Centre was no exception to this.

With extensive knowledge and experience amassed over 34 years within the construction industry, in partnership with their subcontractors and suppliers delivered a comprehensive design and construct package to meet and exceed the requirements of the facility.

The installation comprised of energy efficient LED lighting and lighting control, feature lighting to accentuate and highlight decorative ceilings and fixtures and special purpose power outlets to accommodate the numerous articles of the pool equipment just to name a few.

One major and unique design feature of the project was large timber roof structure frames to the main pool hall imported from Europe. Whilst aesthetically pleasing, JCL Electrics had to think laterally to facilitate cable reticulations and light fixture installation to the area without impacting on the visual impact the frames provide to the pool hall and overall development.

To accomplish this, JCL Electrics installed a unique suspended services extrusion that seamlessly integrates with the structure, whilst facilitating the broader technical requirements of the services installation and ensuring light levels are consistent with those required for international swimming events.

Another distinctive aspect to the electrical installation was the use of a new product to Canberra and the market for Exit and Emergency lighting systems. JCL Electrics utilised the new Clevertronics Zoneworks XT Hive system described as the world’s most advanced emergency lighting system using dynamic self managed meshing technology that automatically creates a network by self discovering emergency luminaries around them.

The Stromlo Leisure Centre is yet another example of JCL Electrics ability to deliver exceptional installations irrespective of complexity.

For more information contact JCL Electrics, 11/86 Sheppard Street, Hume ACT 2620, phone 02 6260 2488, email contact@jclelectrics.com.au, website www.jclelectrics.com.au