Image provided by Hansen Yuncken
Photography by David Weirzbowski'

Client
Department of Health and Human Services

Quantity Surveyor
Donald Cant Watts Corke

Architect
Billard Leece Partnership

Civil / Structural Engineers
Irwin Consult

Building Services Engineers
Waterman

Builder
Hansen Yuncken

Landscape
Lawrence Blyton & Associates

ALBURY WODONGA REGIONAL CANCER CENTRE

New South Wales, Australia

The $75 million Albury Wodonga Regional Cancer Centre brings to the community a new level of care for cancer patients. The Centre combines cancer related services from all over the Albury / Wodonga twin city region, including Albury Wodonga Health, Ramsay Health Care, Genesis Health Care and Border Medical Oncology.

Patients from all over the surrounding districts now have access to a comprehensive set of specialised cancer services, all under the one roof. By eliminating travel and bringing much needed services closer to home, this enables greater comfort for patients.

The Cancer Centre's design surrounds two ground level courtyards with both the internal and external facades featuring large windows allowing for an of abundance natural light to enter all rooms. This creates a space of healing and positivity and steps away from the more traditional designs which tend to be more 'cave-like' and lacking natural light.

The use of green on the facades reflects the nature that surrounds the Centre, reinforcing a sense of calm and further promoting a place of healing.

Connectivity between spaces was a key design goal, ensuring ease of access to all levels. The Centre also connects to the Albury Hospital through a corridor on the upper level, aligning with this vision.

Spanning over three floors the three bunker radiotherapy centre includes a 30 chair chemotherapy day clinic, 30 bed inpatient ward as well as consulting, allied health and wellness facilities.

Donald Cant Watts Corke were initially appointed in 2009 to assist the project partners in their bid to the Federal Government Health Infrastructure Fund. This process established the project budget of $75 million; the project was successful in receiving the requested funding.

In 2011, Donald Cant Watts Corke were then appointed by the Victorian Department of Health and Human Services to provide Quantity Surveying and Cost Management services for the

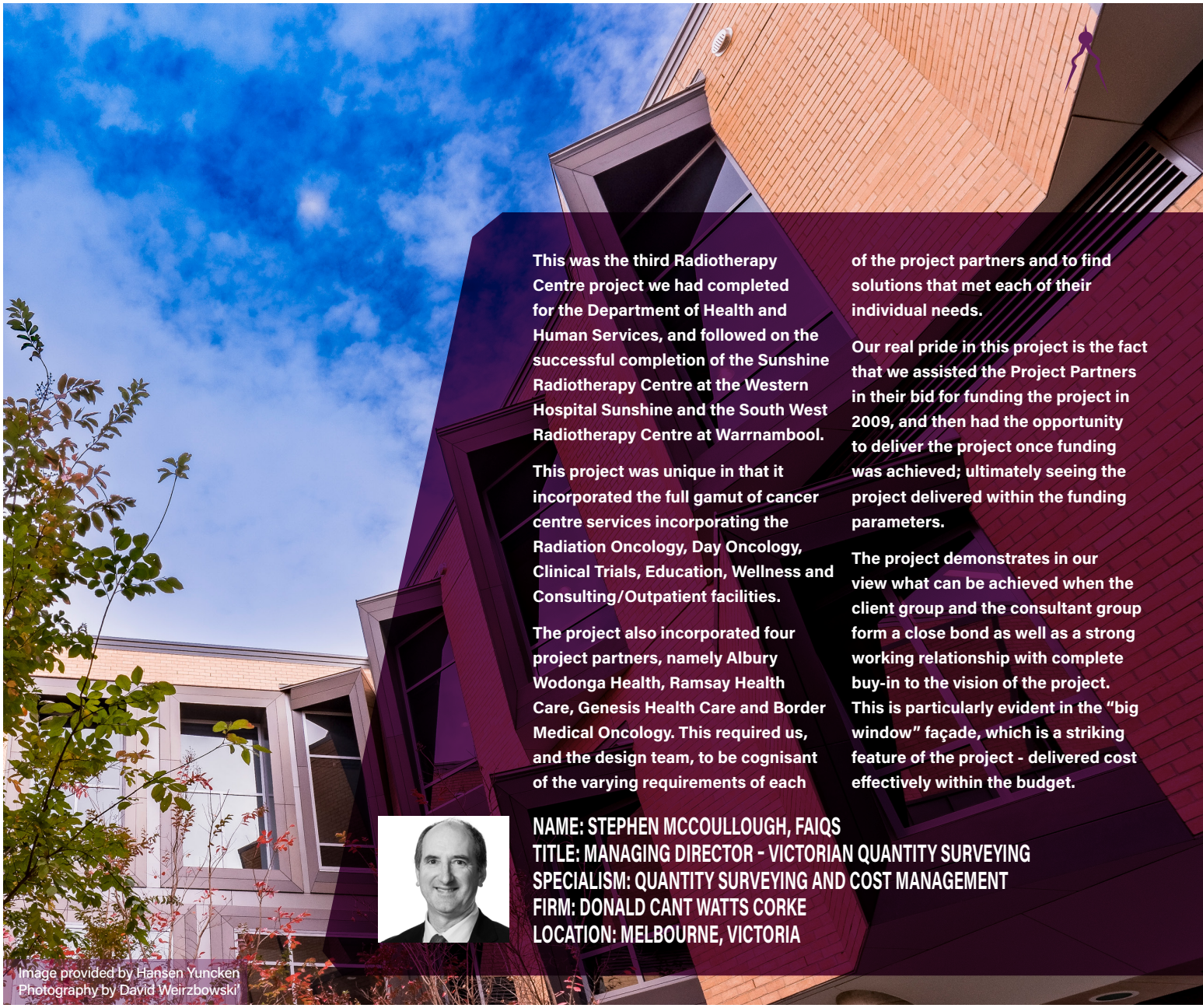


Image provided by Hansen Yuncken
Photography by David Weirzbowski'

This was the third Radiotherapy Centre project we had completed for the Department of Health and Human Services, and followed on the successful completion of the Sunshine Radiotherapy Centre at the Western Hospital Sunshine and the South West Radiotherapy Centre at Warrnambool.

This project was unique in that it incorporated the full gamut of cancer centre services incorporating the Radiation Oncology, Day Oncology, Clinical Trials, Education, Wellness and Consulting/Outpatient facilities.

The project also incorporated four project partners, namely Albury Wodonga Health, Ramsay Health Care, Genesis Health Care and Border Medical Oncology. This required us, and the design team, to be cognisant of the varying requirements of each of the project partners and to find solutions that met each of their individual needs.

Our real pride in this project is the fact that we assisted the Project Partners in their bid for funding the project in 2009, and then had the opportunity to deliver the project once funding was achieved; ultimately seeing the project delivered within the funding parameters.

The project demonstrates in our view what can be achieved when the client group and the consultant group form a close bond as well as a strong working relationship with complete buy-in to the vision of the project. This is particularly evident in the "big window" façade, which is a striking feature of the project - delivered cost effectively within the budget.

NAME: STEPHEN MCCOULLOUGH, FAIQS
TITLE: MANAGING DIRECTOR - VICTORIAN QUANTITY SURVEYING
SPECIALISM: QUANTITY SURVEYING AND COST MANAGEMENT
FIRM: DONALD CANT WATTS CORKE
LOCATION: MELBOURNE, VICTORIA

design and construction phases of the project.

The project was completed on budget. It incorporated a number of client requested changes throughout the design phases, which were funded through contingency and value management processes. The budget was also able to absorb significant latent conditions discovered in the construction phase. In spite of these latent conditions the project was opened in accordance with the initial time frame.

The project also included the successful delivery of a PET scanner as a separate facility. This was undertaken as a separate building contract ahead of the Cancer Centre Project, which was also delivered on time and within the allocated budget.

The project incorporated numerous environmental features. The use of high performance glass and thermally broken frames in the façade enabled high levels of natural light into the facility whilst maintaining patient and staff comfort within the facility. A mixed mode ventilation system utilising active chilled beams was implemented to provide an optimal air conditioning system within the building. Rain water harvesting was incorporated to provide water for landscape irrigation, whilst the architectural design also incorporated thermal chimneys, with administration and office areas to assist in the provisions of natural light in these areas as well as enhancing staff comfort.

Initial Budget	$75m
Final Cost	$75m
Target Completion Date	February 2016
Actual Completion Date	June 2016
Date Started	November 2011
Size	8,200 m2
Location	NSW, Australia

Client
Victorian Department of Health and Human Services

Quantity Surveyor
Donald Cant Watts Corke

Architect
Sliver Thomas Hanley Dary Jackson Joint Venture

Builder
Lend Lease Building Contractors
Building Services Engineer – WSP Parsons Brinckerhoff

BOX HILL HOSPITAL REDEVELOPMENT

Victoria, Australia

The Box Hill Hospital Redevelopment has brought a new level of healthcare to the Eastern Suburbs of Melbourne. The redevelopment has provided new state-of-the-art facilities and boosted the site's capacity and service offering. The Hospital is Eastern Health's largest, and is able to care for an additional 10,000 people each year from Melbourne's East.

The $447.5 million project was funded by the Victorian State Government and delivered by the Department of Health and Human Services (DHHS) under a Managing Contractor contract. The Redevelopment project is the largest value project of its kind to have been delivered by the Department in the last 10 years.

PROCUREMENT

The project provided DHHS with the opportunity to introduce a new form of procurement within the public healthcare sector for Victoria. A modified Queensland Major Works contract was implemented to deliver a Guaranteed Maximum Price Managing Contract, stepping away from the models generally associated with large Victorian hospitals such as Lump Sum, Construction Management or PPP.

Along with the new form of

procurement, the Department also changed its management procedure, utilising an in-house Project Director and Project Managers rather than external PM Consultants. This led to a very close working relationship between the Department and Eastern Health, which enabled them to focus on the optimum outcome of project scope, value and budget.

The new procurement and delivery model has been deemed so successful, that it has been utilised again on the Monash Children's Hospital, due to open in late 2016, and also on the Joan Kirner Hospital, which is currently in design. A key focus of the new model was a heavy emphasis on a 'one team' mantra, taking a holistic approach to the delivery of the project. Any issues that arose, were dealt with by an all-inclusive team effort; shifting away from blame and focusing on identifying and rectifying the issue as a team.

Project Director, Liz Maddison confirmed the success of the new approach:

Planning new hospitals is very complex but this hospital has had a highly professional one team approach which has meant that problems are identified, analysed and resolved in a collegiate atmosphere. As with all contemporary hospitals, the information and communication technology is the most challenging aspect of all of the project elements.

REDEVELOPMENT

Following the demolition of the existing Clive Ward Building, the new build took place adjacent to the existing operating hospital with minimal disruption over a 34-month period, opening in September 2014. The staged transfer of patients from the existing to the new hospital was successfully co-ordinated over a six-week period. The refurbishment of the retained existing hospital buildings was completed in December 2015.

The new 52,000m^2 Hospital is 10 storeys with a two level basement carpark. The redevelopment increased the site's capacity by 200 beds, delivering a total of 443 inpatient beds that are inclusive of 18 ICU beds, 11 new operating theatres and specialist cardiology and oncology services. A larger emergency department was also established.

Maternity and post-natal services have also been significantly expanded with 10 birthing rooms, five of which are inclusive of birthing baths, 31 post-natal beds, as well as specialised nurseries and foetal care areas.

One of the key successes of the project was the ability to offer an additional level to the building, providing 64 beds in new modern accommodation, in lieu of remaining in the existing hospital. This was achieved through careful cost planning and value management of the project, with the design phases utilising the collaborative working relationship between the Department, Eastern Health, the consultants and the Managing Contractor.

In a message from the then Premier of Victoria, The Hon Dr Denis Napthine, MP and the then Minister for Health and Ageing, The Hon David Davis MP, the successful cost-saving was praised:

The Victorian Coalition Government is not only delivering this vital piece of infrastructure ahead of time and on budget but we have also made substantial savings through our sound investment strategy which has allowed us to drastically increase the scope of the project. The environmentally-friendly redevelopment now includes an additional floor, within the original budget.

Building capacity for the future enables Box Hill Hospital to treat more patients and deliver expanded theatres, diagnostic services, specialist clinics and staff facilities. We are proud of the additional benefits we have been able to provide at Box Hill Hospital.

Advanced medical technology was also a key integration into the new hospital. One innovative installation included the high-tech falls prevention beds that occupy every room. These safety-conscious beds send signals to the nurses if a patient-at-risk tried to get out of bed. The nurse can then call the patient to see if they would like to get out of bed and/or let them know they are on their way. This helps to combat dangerous falls, or if too late, reassure the patient that help is on the way.

A Messenger paging system was also implemented to increase the efficiency in communication. The system can send text messages to wireless and fixed telephones as well as computers, smartphones and radios. A Responder 5 Nurse Call system is also present in the Messenger system to alert staff to a range of actions including Bed Exits. Clear and effective communication systems are paramount for the safety of patients.

DESIGN

The Hospital project had a clear vision of being a medical facility that provided a sense of calm and tranquillity, providing a healing environment that patients feel conformable in. Light, colour and design were all taken into account to create a connection with nature and hence create a positive ambience in a place that is typically associated with illness.

It was important to steer away from the stark and clinical atmosphere hospitals often have that tend to intimidate and cause stress for patients. Careful consideration was put into the choice of colour pallet to reinforce a calming and healing environment.

The use of bold green and grey on the inner courtyard façade reinforces the step away from the expected hospital typology, giving it a modern and fresh feel. Elements of green and grey flow throughout the interior accompanied by green plant-like wall motifs that can be found throughout. The green-grey colour palette evokes a sense of calm and is also symbolic of nature.

To further create a calming and healing environment for patients, natural light was maximised. With high ceilings, large windows and glass doors, the Hospital's central atrium is a bright space, flooded

with natural light to meet patients upon first entrance.

In line with this, the hospital rooms were also designed with both the patient and staff as the primary focus. Patients will benefit from the large windows that provide an abundance of natural light as well as a view of the inner courtyard and the nature surrounding the hospital; adding to the feeling of pleasantness and positive healing.

Bedroom layouts provide patients with a view, whilst staff have a clear range of vision to enable patients' safety. This ensures any emergencies or falls are spotted and acted on as fast as possible.

Donald Cant Watts Corke provided Cost Management services for this project, which was delivered on budget, ahead of schedule, and where an additional floor could be added. Further, savings the team achieved on the Main Build were also able to be filtered into the refurbishment works, allowing an expanded scope and extent of refurbishment to the existing hospital.

The Box Hill Hospital Redevelopment was one of the largest projects delivered by the Victorian Department of Health; its success exemplifies the Department's foresight and ability to deliver an outstanding project of such size and significance.

Initial Budget
$447.5 m

Final Cost
$447.5 m

New Building Target Completion Date
December 2014

Actual Completion Date
September 2014

Refurb Building Target Completion Date
December 2015

Actual Completion Date
December 2015

Date Started
November 2011

Size
52,000m2

Location
Melbourne

The Box Hill Hospital Project has become the benchmark and model for which the Department of Health and Human Services in Victoria now run their major projects. So successful was the contractual model it has been rolled out across both the Monash Children's Hospital Project and the Joan Kirner Women's and Children's Hospital Project.

The Collaborative Managing Contractor model involved a steep learning curve for all members of the project delivery team including the Project Director, the Managing Contractor and the Consultant Team. The highly collaborative nature of the project involved a heavily process driven stream of communication which ensured close scrutiny was maintained on all aspects of the project including costs, delivery timeframes and the building's quality. These processes have subsequently been streamlined and further developed as a result of the Box Hill Hospital Project and implemented on the Monash and Joan Kirner Projects.

NAME: STEPHEN MCCOULLOUGH, FAIQS
TITLE: MANAGING DIRECTOR - VICTORIAN QUANTITY SURVEYING
SPECIALISM: QUANTITY SURVEYING AND COST MANAGEMENT
FIRM: DONALD CANT WATTS CORKE
LOCATION: MELBOURNE, VICTORIA

Client
Anglican Church of Australia Collegiate School of St Peter – St Peter's College

Quantity Surveyor
Donald Cant Watts Corke

Architect
Matthews Architects

Engineers
Bestec (Engineering Services); SMEC (Structural and Civil)

Builder
Kennett Pty Ltd

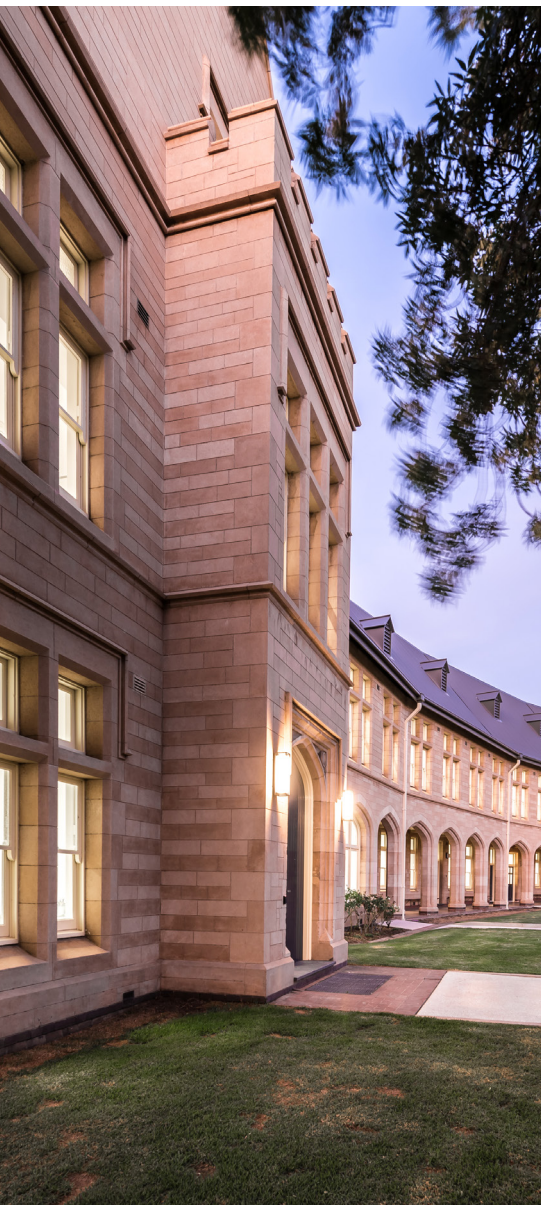
Landscape
Oxigen

Acoustics
Resonate Acoustics

Project Manager
Watermayne Projects

PENTREATH MIDDLE SCHOOL, ST PETER'S COLLEGE

Victoria, Australia



The St Peter's College Middle School's Pentreath building exemplifies the successful incorporation of contemporary design to a historical building. The refurbished and expanded heritage-listed Pentreath Building provides a 21st century learning environment for current and future students.

HISTORY

Built in 1935, the Pentreath building was originally a boarding house named "School House". The building's current namesake, Reverend Arthur Godolphin Guy Carleton Pentreath, was appointed Headmaster of St Peter's in 1933 at the age of 31. This made him one of the youngest headmasters in the school's history.

Under his leadership the school took a shift towards a more progressive approach to learning. Incorporating into the curriculum a range of subjects including arts, creative learning, engineering and physical fitness, Reverend Arthur Godolphin Guy Carleton Pentreath broadened the horizons of the school, offering boys a more diverse education.

Today, the history of the building and its namesake is still of high importance to the school so it was crucial for the design team to preserve the existing heritage facade whist revitalising the building to create a modern learning environment that reflects the values instilled by its history.

DESIGN

Prior to the restoration, the building was under-utilised and not dynamic enough to facilitate the modern student. The architects of the project, Matthews Architects, took careful consideration into how the design would not only complement the historical aspects but advance the building functionally, to take on the educational needs of current and future students. Design was based around how current students and staff use the spaces as well as envisaging their future use.

Establishing a student-focused and social learning environment was the approach taken with heavy emphasis on empowering the students. The new learning facility delivered 13 flexible learning spaces, indoor and outdoor breakout spaces, two communication/IT rooms as well as office and support function spaces for staff. Large learning spaces were created to ensure flexible use and cater for the ever-evolving curriculum; evoking a sense of permanence and stability in the new space - dynamic enough to cater for

current students, whilst sufficiently providing for future students and the new technologies and learning techniques associated with them.

Layout ensures each learning space opens onto the social common, creating a flow towards a social space. This space provides a less formal learning environment that facilitates creativity and new ways of thinking.

Different learning spaces further broaden the opportunities for students to embrace their education whilst supporting each student's array of ability, learning style and achievements. This holistic approach to learning reflects the values of Reverend Arthur Godolphin Guy Carleton Pentreath combined with the College's future aspirations.

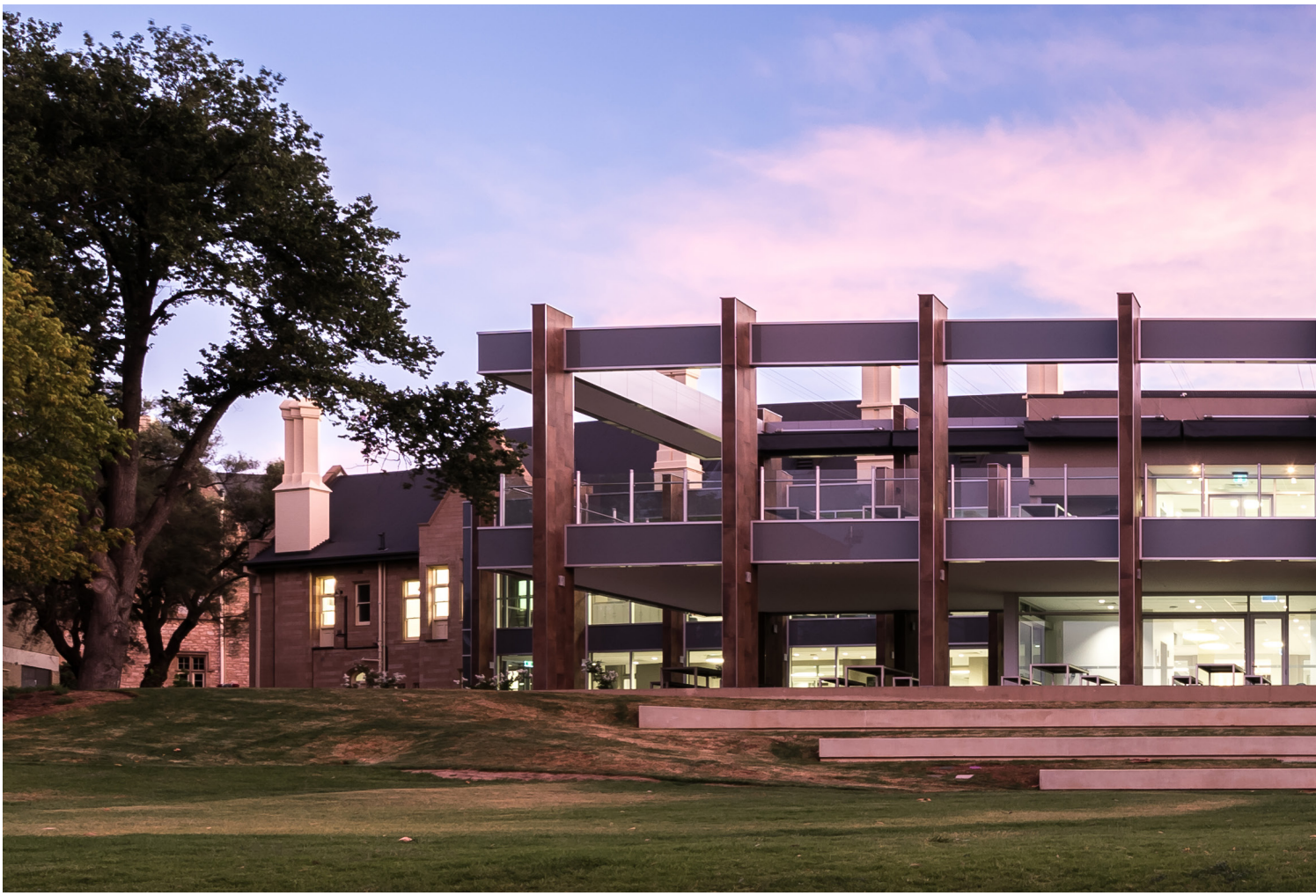
New elements to the building are modern but understated, supplementing the building where necessary, whilst not overshadowing the original heritage features. Contemporary design celebrates the building's rich history, paving the way for future students.

Whist the educational purposes of the design were paramount; environmentally sustainable design was also incorporated. Energy efficiency was a goal for the design team, ensuring that heat was retained in winter and reflected in summer. Glazing and strategically positioned windows combined with a temperature controlled environment were also critical in ensuring students remain comfortable and can excel in their studies.

State-of-the-art technology was also integrated to control how the building 'breathes.' Mechanically-controlled ventilation louvres provide fresh air at a controlled temperature, further creating a comfortable atmosphere and an optimal learning environment.

Maximising natural light was also imperative to Design. Each space is flooded with quality natural light, steering away from the artificial light sources which some classrooms depend on. Room proportions, layout and use of space all facilitated maximum light infiltration, adding to the students' view and connection to the nature outside. Calculated design used direct and indirect light for natural lighting options, achieving sustainability objectives whilst benefiting student health.

The integrated approach to daylight and design avoided additional costs associated with technology required to control temperature and lighting sources. The team at Matthews Architects



achieved an impressive near perfect passive solar performance.

Extensive research has been conducted on the health benefits of natural light and the positive effects it has on productivity levels. As such, an environment was created that supports student learning as well as promoting a healthy state-of-mind and efficiency.

The revitalised Pentreath building further enhanced the students' connection with nature by expanding the learning environment outside with extensive outdoor learning and breakout spaces. These new areas bridged a relationship with the adjacent Caterer Oval, the proposed new Integrated Learning Centre and the Senior School precinct; giving students the opportunity to develop physical fitness and an alternative learning environment to the traditional walls of a classroom.

Social experience is enhanced through the delivery of a tiered seating space along the adjacent embankment where students, staff, families and old scholars can gather. The tiered space incorporates precast seating and grassing into the landscape.

The wellbeing of students was always at the cornerstone of every decision the design team made. The team at Matthews Architects had a strong vision for the school which worked hand-in-hand with the St Peter's College's values and aspirations. This alignment fulfilled all objectives, creating the ultimate facility to enable boys to flourish and reach their potential.

Initial Budget
$10.95 m

Final Cost
$10.88 m

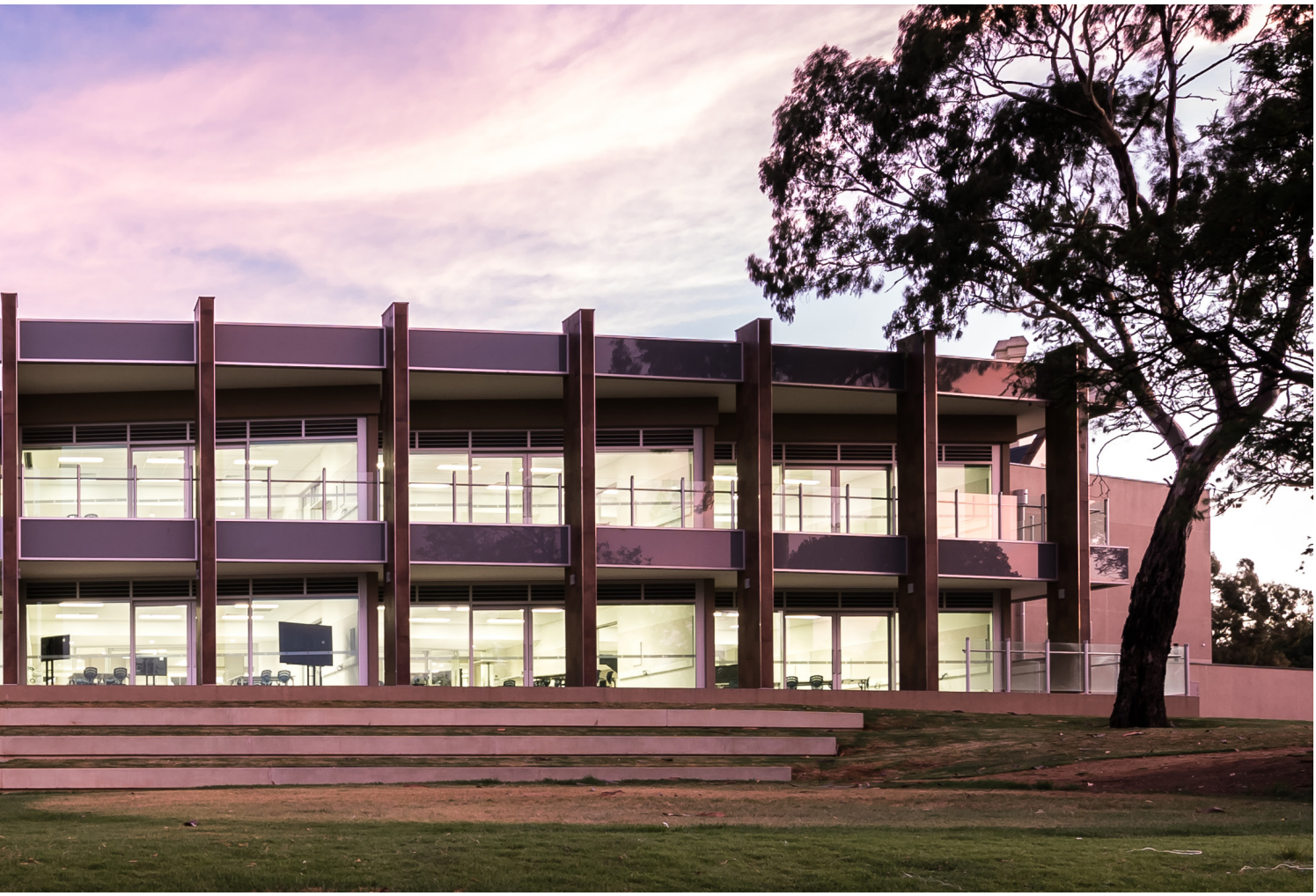
Target Completion Date
15 January 2016

Actual Completion Date
9 December 2015

Date Started
January 2015

Size
3,651 m2
(Refurbished area – 1,695 m2 GFA/New Extension – 1,956 m2 GFA)

Location
St Peter's College, Adelaide, South Australia



We embraced the challenge of working with St Peter's College and Matthews Architects in developing robust cost estimates through multiple design options in order to meet the Brief and Budget. The challenge was met by all, with a successful commercial outcome for St Peter's College, delivering a construction cost under $3,000/m2, with an architectural solution providing maximum use of functional space and maximum connection to its surrounding environment.

The commercial success of the project was cemented in the budget establishment phase, through an appreciation of the cost parameters around the client's time, qualitative and quantitative targets, as well as the benchmarking of costs. This was continuous throughout the life of the project's procurement, both pre and post building contract.

3 useful lesson learnt from this project, that can be applied on future projects for positive client outcomes:

1. Take the opportunity to assess and understand the risks associated with existing building and infrastructure assets prior to undertaking physical refurbishment work, particularly where risk of asbestos and hazardous material is present;
2. Ensure adequate cost and risk allowances are made at the establishment of the project budget - to ensure a robust project budget moving into design phases; to ensure the Client Brief is met; and to avoid costly abortive work, lost time and negative impact on the project business case;
3. Understand which consultants and contractors in the marketplace "can deliver", can share the stakeholder's values and appreciate the project objectives; ensuring they remain energised throughout the entire project.

NAME: DAVID SCOTT, FAIQS
TITLE: MANAGING DIRECTOR SA
FIRM: DONALD CANT WATTS CORKE (SA) PTY LTD
LOCATION: ADELAIDE, AUSTRALIA