

VIC PROJECT FEATURE PENGUIN PARADE VISITOR CENTRE

Kane Constructions / Phillip Island

Image supplied by Kane Constructions



MARCH OF THE PENGUINS

DEVELOPER : Phillip Island Nature Parks
MAIN CONSTRUCTION COMPANY : Kane Constructions
ARCHITECT : Terroir
STRUCTURAL ENGINEER : Wood & Grieve Engineers
SUPERINTENDENT : AECOM
CONSTRUCTION VALUE : \$58.2 million



Image supplied by Kane Constructions

The \$58.2 million Penguin Parade Visitor Centre redevelopment has been designed with high levels of architectural finish including a complex roof and façade geometry comprising composite glue-laminated timber, steel and concrete with a zinc shingle façade.

Kane Constructions was appointed in late 2017 to deliver the world class Penguin Parade Visitor Centre facility. The Kane team utilised inhouse expertise in building information modelling (BIM) to address coordination of building services, production of shop drawings and the maximisation of offsite prefabrication to ensure efficiencies and minimise impact to the highly sensitive environment.

There is an array of 666 solar panels on the expansive roof, a water filtration system to recycle rainwater for non-potable use, increased roof and floor insulation, and double-glazed windows. Its state-of-the-art design has been acknowledged internationally, having just been announced as a winner at the 2019 International Architecture Awards.

Renowned for their challenging construction ability and multi-awarding winning results, privately owned Kane Constructions, began work on the new Penguin Parade Visitor's Centre (PPVC) at Phillip Island's in January 2018. Enhancing the visitor experience over an area of 4,785m², the new star shaped building includes 1,800m² of education spaces, interactive interpretive zones, public spaces, modern retail outlets and improved dining experiences with café and restaurant, as well as administration zones to house the nature parks staff and rangers.

"With construction occurring while the existing visitors centre continued to operate it was critical for our team to work closely with the client, architects and subcontractors, to ensure continuity of business was maintained whilst construction was underway. The delivery of the building's unique external façade, complex geometry of structural elements and internal fitout demanded an innovative approach to construction," said Kane Project Manager, Ben Barrett.

"Due to the complexity of structural steel, Glulam beams and precast panels, our Project Engineer, Shane Harders, did an amazing job coordinating the 3D modelling of the structure and services to ensure efficiency in the construction. This technology and modeling was used throughout the internal fitout works, and was embraced by subcontractors and Kane Constructions site management."

The building features 900mm deep Victorian Ash Glulam timber ceiling beams spanning up to 18.5m, with ply linings creating the angular raking ceilings. The intricate ceilings integrate acoustic panelling also in which services are located. Rendered monoliths complemented by GRC plinths, extend from the troweled screeds, concealing the structural steel and providing platforms for the interps

displays throughout the building. The building's concrete, exposed timber, folded zinc shingles and glass reinforced concrete is finished naturally, creating integral texture and colour.

As Victoria's most visited tourist attraction, the new PPVC sits among three distinct landscapes, dunes, headland and wetlands, and is designed to link these through mounding and creating valleys for water to flow across the land.

"The mounds also assist in preventing direct views of the new bus and car parks from the building, with visitors approaching only gaining a view of the building once they are within the directly surrounding boardwalks and indigenous performance space," Ben said.

The dynamic Kane team was responsible for the PPVC construction, landscaping, the car coach and minibus parking areas, and the 'central spine', which is the walkway connecting the parking areas to the new building. They were also accountable for the demolition of the old visitors centre after construction and revegetation of over 6 hectares of natural Penguin habitat creating new habitats for over 1,400 breeding penguins.

The Environmental Management Plan outlines the mitigation measures put in place to minimise the impacts on wildlife previously, during and post construction. Daily wildlife inspections were undertaken throughout construction, and Kane worked closely with Nature Parks to adjust finished levels of landscaping to ensure they

were suitable for penguin occupation. "All contractors have been doing a fantastic job in assisting project staff in managing wildlife in and around the construction site. To offset the vegetation removal, an area has been created on private land adjacent to Swan Lake, also resulting in revegetation of 16 hectares of farmland."

From humble beginnings in 1973, Kane Constructions is now one of Australia's leading contractors with over 500 employees operating in Victoria, New South Wales, Queensland and the Australian Capital Territory. Specialising in commercial construction, Kane is active across multiple market segments including education, health, defence, office and community. The business remains privately owned with annual turnover exceeding \$1 billion.

Consistently delivering quality projects for their clients Kane is also working on, Shepparton Arts Museum, Puffing Billy Railway Lakeside Discovery Centre, Cato Square and the Cabrini Health Gandel Wing in Victoria.

"We continue to do what we know best. Successfully deliver quality projects for our clients and ensure the journey is an enjoyable one," Ben added.

For more information contact Kane Constructions, 658 Church Street, Richmond VIC 3121, phone 03 8420 1200, email viccontact@kane.com.au, website www.kane.com.au

Below Signal & Hobbs supplied and installed BlueScope Lysaght Kliplok 700 deck to the roof along with all box gutters and drainage system.

Signal & Hobbs provide a range of building solutions beyond just roofs, using their expertise and specialist skills on the unique star shaped architecturally acclaimed, Penguin Parade Visitor Centre.

“Our experience with sheetmetal, aluminium, polycarbonate, fibreglass, insulated façade panels and steel means we can offer solutions for many other applications,” said Signal & Hobbs Director and Project Manager, Wayne Mclean. “The visitor centre installation was extremely time consuming due to the angled design and each of the 800 plus roofing sheets having to be cut top and bottom before fitting, plus daily cleaning of the metal swarf caused from the cutting.”

BlueScope Lysaght Kliplok 700 deck, with a unique colour coating of AM150 Colorbond Metallic Cosmic, was used on the roof due to the proximity to the ocean and the corrosive effect of salt air. The special coating also carries a 15 year warranty for the roof.

“30% of the roof area was also covered with solar panels that require a special maintenance regime. The roof under the solar panels has to be washed down with fresh water every three months to maintain the life of the roof,” Wayne explained.

Signal & Hobbs also installed all box gutters to the roof area with a Syfonic drainage system. Over 550 lineal meters of box gutters were installed with all trafficable supports. The 0.55mm 304 stainless steel material has a high corrosion existence and a long life span.

“While Bluescope Lysaght supplied the flashing Metallic Cosmic coils, all the stainlesssteel box gutters and Metallic Cosmic flashings for the project were fabricated and supplied by the Roofing and Sheetmetal

Centre or RSC as it is known at Noble Park North,” said Wayne. “We also installed the safe access system to the roof area, designed and installed in conjunction with Synergy Access. The system allows building maintenance staff to access and safely complete roofing duties.”

The installation of all materials was professionally completed by Project Foreman, Steve Brown, along with 12 roof plumber tradesmen and a few apprentices. “All our roof plumbers are registered with the Victorian Building Authority and have Certificate III trade qualifications,” Wayne said. “We also have an ongoing programme for training apprentices.”

Established in 1973, Signal & Hobbs expertly deliver fabrication, metal roofing installation and sheet metal rainwater products for many landmark Victorian construction projects. “We pride ourselves on providing unique roofing solutions for major construction projects. Our philosophy of cooperation with our clients being critical, to the delivery of the project on time and on budget,” said Wayne.

Projects Signal & Hobbs have in their portfolio of work includes the Victorian Comprehensive Cancer Centre Melbourne (Grocon/PCL), the New Melbourne Convention Centre (Probuild), the RAAF Base Sale Victoria (Laing O'Rourke), the ANZ Stadium re-roof Sydney in conjunction with Close Commercial Roofing (Laing O'Rourke) and the many stages of construction at Chadstone Shopping Centre Melbourne (Probuild).

For more information contact Signal & Hobbs, 20 Summit Road, Noble Park North VIC 3174, phone 03 8726 3050 email reception@sighob.com.au, website www.sighob.com.au



Below William & Burns installed the primary HVAC Air Handling Units throughout Penguin Parade Visitor Centre.

Below Terroir were the architects appointed to design the unique star shaped visitors centre for Penguin Parade.



Attracting over 600,000 visitors per year the Penguin Parade at Phillip Island Nature Park is crucial to the success of Victoria's tourism, the new visitor centre increasing visitation by more than 20% over ten years. Accommodating education and hospitality facilities, utility areas as well as restaurants made the installation of the heating, ventilation and air conditioning (HVAC) systems essential.

Williams & Burns Contracting worked with the architect and builder from the beginning. "Our professional team of locals installed the primary HVAC Air Handling Units (AHU's) systems zoned to the various building spaces," said Darren Burns, Williams & Burns' Director. "Chilled and heated water is reticulated to all AHU systems via secondary pumping systems interconnected to a thermal plant heat pump plant of two machines rated at 350kW each."

"Ventilation systems comprise general, kitchen and toilet exhaust systems as required to cater to the specific usage areas," Darren added.

For over 30 years locally owned and operated Williams & Burns, based in Archies Creek, have provided HVAC design, installations, repair and maintenance projects for hospitals, nursing homes, hotels, clubs,

cinemas, hostels, operating theatres, schools and many other industries between Melbourne, Mornington Peninsula, Gippsland and beyond, even interstate if required. They are renowned for their prompt service, expertise, knowledge, quality workmanship and highest quality products on commercial and residential projects.

They are also passionate about employing apprentices and helping young people begin their careers. Currently the company has four apprentices working with them, believing that young people are essentially the future of the industry.

With teams in Melbourne and Gippsland, Williams & Burns have all your HVAC needs covered. Their projects include RAAF Base Sale, Inverloch RACV Resort, Newhaven College, The Nobbies Center, Wonthaggi Plaza, Warragul Arts Centre, Warragul Hospital, Moe Rail Precinct, Wonthaggi Secondary College and Fulham Correctional Facility.

For more information contact Williams & Burns Contracting Pty Ltd, 92 Archies Creek Road, Archies Creek VIC 3995, phone 03 5678 7463, email info@williamsandburns.com.au, website www.williamsandburns.com.au

In September 2016, Terroir Architects were appointed Principal Consultant for the \$58 million new Penguin Parade Visitor Centre. Known for their extensive experience in designing complex buildings in internationally significant, sensitive locations where cultural and environmental conditions are central to the project's success, Terroir were able to apply their experienced eye to this significant project.

"When initially engaged we proposed a change to the concept plan that had been incorporated in the masterplan," said Terroir Principal, Scott Balmforth. "This involved rotating the arrangement 90 degrees, so the public foyer space now occupied part of the journey for the visitor from arrival through to the Penguin Parade experience."

"The star shaped design reaches out to the three surrounding landscapes – dunes, headland and wetland – stitching the landscapes together like a brooch. The sharp, angular form creates a thinner and lighter looking building that was a finalist in the World Architecture Festival 2017 Awards, in Berlin, Germany in the Unbuilt Culture Category."

The building's exterior zinc cladding reflects the power of the landscapes, while the exposed timber and plywood paneled interior is

warm and welcoming. Structured around a central space are a series of dedicated spaces for ticketing, a theatre, interpretation space, education facilities, retail and restaurants.

"Construction began in 2018, and our success was due to the collaboration between our Terroir team, Phillip Island Nature Parks, and Kane and their subcontractors," said Scott.

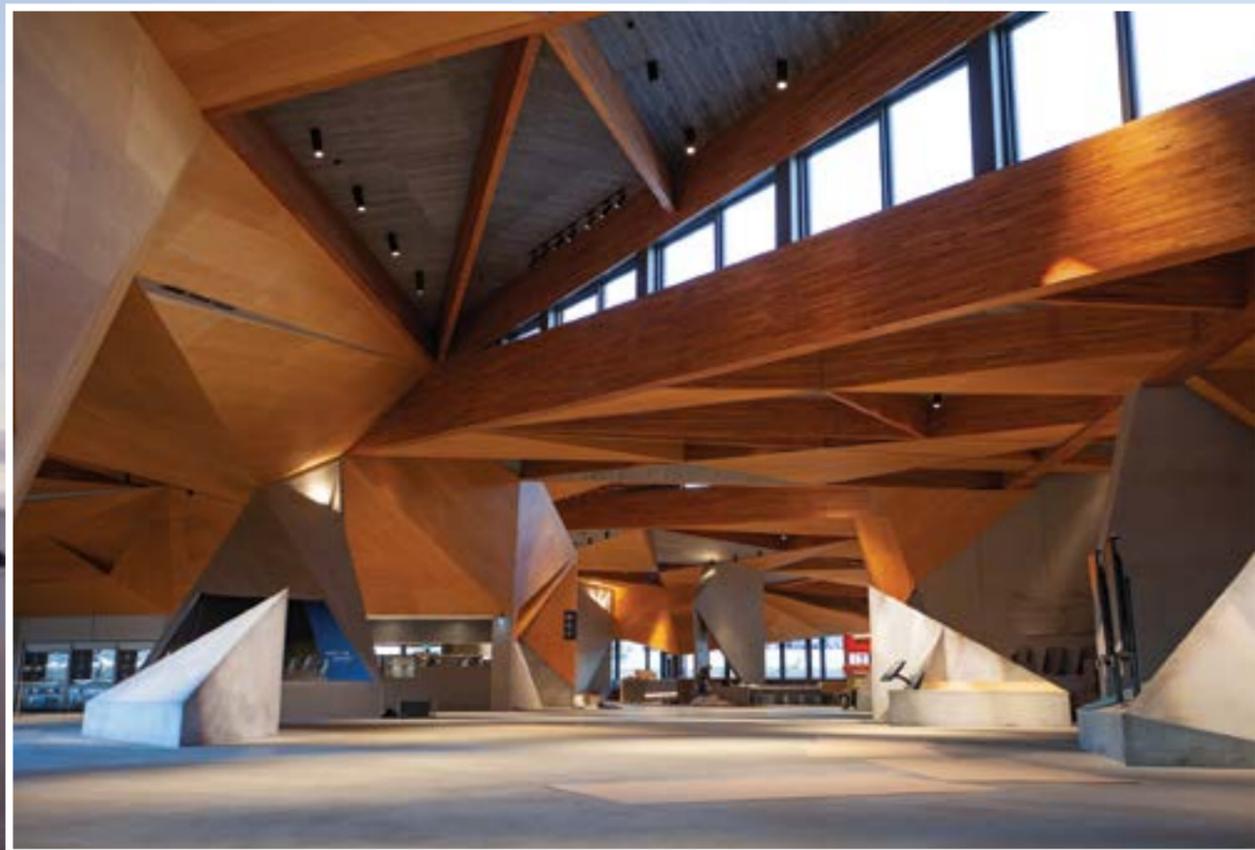
Terroir has been designing and delivering innovative, award-winning, place based sensitive projects since 1999. The team is young but established with strong design backgrounds who deliver fresh, energetic, research-based projects internationally. They're also working on the Puffing Billy Railway Visitor Centre and Geelong's Waterfront Safe Harbour Precinct in Victoria.

For more information contact Terroir Architects, 181 Elizabeth Street, Hobart TAS 7000, phone 03 6234 6372, email hobart@terroir.com.au, website www.terroir.com.au



Below Swell Constructions completed the timber ceilings, glue lam beams and the outside decking around the building.

Below Endeavour Ceilings installed the unusual ceiling elements for Penguin Parade Visitors Centre.



Established in 2007, Swell Constructions is renowned for creating custom built carpentry masterpieces in a timely and cost effective manner on a variety of residential and commercial projects.

The company has a strong dedication to environmental sustainability and responsibility, which aligned with the desired outcomes for the Penguin Parade Visitor Centre redevelopment project.

“Having previously created the viewing area at Penguin Parade, we were thrilled to continue our involvement in this exciting major redevelopment. The new decked walkway between the carpark and visitors centre building aligns with our environmental priorities,” said Chief of Operations, Sanela Skopljak.

The Swell team, comprising of 45 handpicked members, worked on the ‘central spine’, or walkway connecting the car/coach parking areas to the new building as well as the plywood feature ceiling, glulam wrap installation, roof framing, carpentry fixing. A large subfloor was also created to incorporate wheelchair access ramps. “The plywood feature ceiling was our biggest challenge. It needed to be seamless, so the ply was cut onsite with precise 45 degree mitres, ensuring all the external angled sheets had no gaps between them,” said Sanela.

Swell Constructions has been nominated by Kane Constructions for their ‘Most Valuable Player Awards’ in recognition of Swell’s impeccable execution of this project.

Swell customise their project team for every project they take on to ensure execution is carried out with impeccable quality. “Our dedicated team has an undeniable passion for perfection, while also offsetting our greenhouse emissions by partnering with nonprofit Greenfleet,” said Sanela.

Swell Constructions have recently completed the Portsea Surf Life Saving Club for Ireland Brown Projects, while also undertaking work on a number of school, apartment and aged care projects throughout Victoria.

For more information contact Swell Constructions, phone 03 5931 3691, email info@swellbuildinggroup.com, website www.swellconstructions.com

Endeavour Ceilings relish the opportunity to take on new challenges, and the new Penguin Parade Visitor Centre multi-pointed, star shaped building, designed by Terroir, offered the perfect opportunity for the team to utilise their skills.

Beginning in late October 2018, more than 25 of Endeavour Ceilings’ experienced team worked on a number of internal elements for the project, including the lightweight framing, angular and odd shaped exposed acoustic insulation, plywood and perforated ceilings, theatre ceilings and prefabricated frames.

The primary timber interior spaces of the single storey visitor centre building, features a faceted timber ceiling that resembles the external geometry. The internal environment is directly related to the structure and surrounding landscapes, providing an intensity along with a welcoming warmth to the annual 700,000 visitors.

“There was a lot of exploration with the architect in cross laminated timbers to achieve the desired look, feel and support required on the project,” said Endeavour Ceilings Director, Sid Gudelj. “Kane’s 3D modelling was extremely beneficial and a real time saver for everyone involved.”

Since 2000, family owned and operated Endeavour Ceilings has been providing top class building services to commercial, industrial and residential clients.

“We’ve just completed a project for David Jones where our innovation and creativity with the design cut the build time in half without compromising the look, feel or quality,” said Sid. “If there is ever any programme constraints or challenging issues, we’re always eager to be involved. It’s our forte.”

The team are also currently working on Glen Shopping Centre for Probuild and M City in Monash for Multiplex.

For more information contact Endeavour Ceilings, 23 National Drive, Hallam VIC 3803, phone 03 9703 2428, mobile (Sid Gudelj) 0417 088 881, email admin@endeavourceilings.com