

BERRY RECREATION HALL



Berry
Recreation Hall
South Coast
New South Wales

Allen Jack +
Cottier Architects



Good new design in the architectural deserts of small towns is hard to find and easy to love. →

This building, a straightforward recreation hall for the NSW Department of Sport and Recreation at Berry, a pretty valley town around two hours' drive south of Sydney, is one of those finds. And it is a delight. It shows how the power of simple ideas well resolved can lift even the most ordinary of structures to degrees of eloquence. It demonstrates, too, the importance of the role of the architect prepared to use invention to make decent architecture on modest budgets (here, just \$1.3 million).

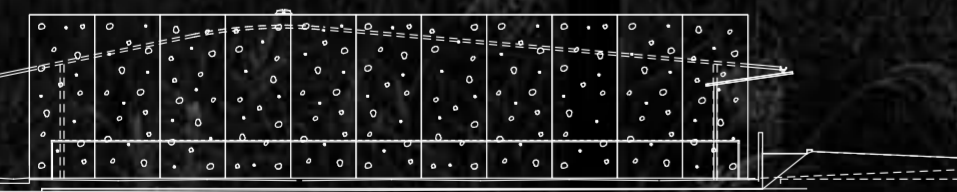
The hall is an additional facility at the Berry Sports and Recreation Centre, set on 60 hectares of lush, rolling country on the edge of the town. The centre is used predominantly by school children on camps and holiday programs, as well community organizations and sports groups. The property dates back to the mid-1800s. It was worked, variously, as a stud dairy and experimental farm until the 1930s. From that time to the mid-seventies it was used as a training farm for male wards of the state. A collection of brick institutional buildings from the 1930s are scattered about the site, set amidst established gardens and mature trees.

The hall provides flexible indoor facilities for basketball, netball, rock climbing, dance, film, theatre and more besides. It replaces a part-enclosed and inadequate steel and corrugated iron farm shed used for the same purposes for many years, and which is due for demolition.

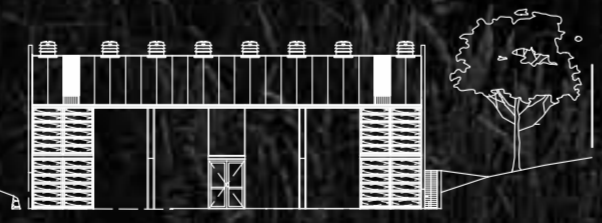
The building's architects, Allen Jack + Cottier, were asked to design a robust multipurpose building for kids to have fun in. And their response, I'm happy to report, is an inspired one, producing a joyful and light filled space in which kids can revel. Cut into a small hill to reduce visual bulk from neighbouring properties, the hall is remarkable for its two long sides of precast concrete panels, twenty two in all, each panel pierced through by an array of irregularly shaped amoeba-like holes; while the short ends of the box are filled with panels of concrete separated by clear glass slots rising to the full height of the building.

"The direction we took grew from an integrated and exhaustive environmental modeling, materials research and structural analysis," says Michael Heenan, the hall's principal architect. "In the end, it all came down to a simple study in the capture and escape of light."

The holes in the precast panels – dubbed 'starlights' early in design process – range in size from tiny spy holes to larger openings, each encased inside double glazed plastic inserts in colours of red, white and black. Shafts of light passing through them flood the interior, the light varying in intensity and colour with the movement of the sun throughout the day; while from inside, as you move about the hall, there are countless vignettes of the landscape outside and of the surrounding green farmland to be enjoyed.

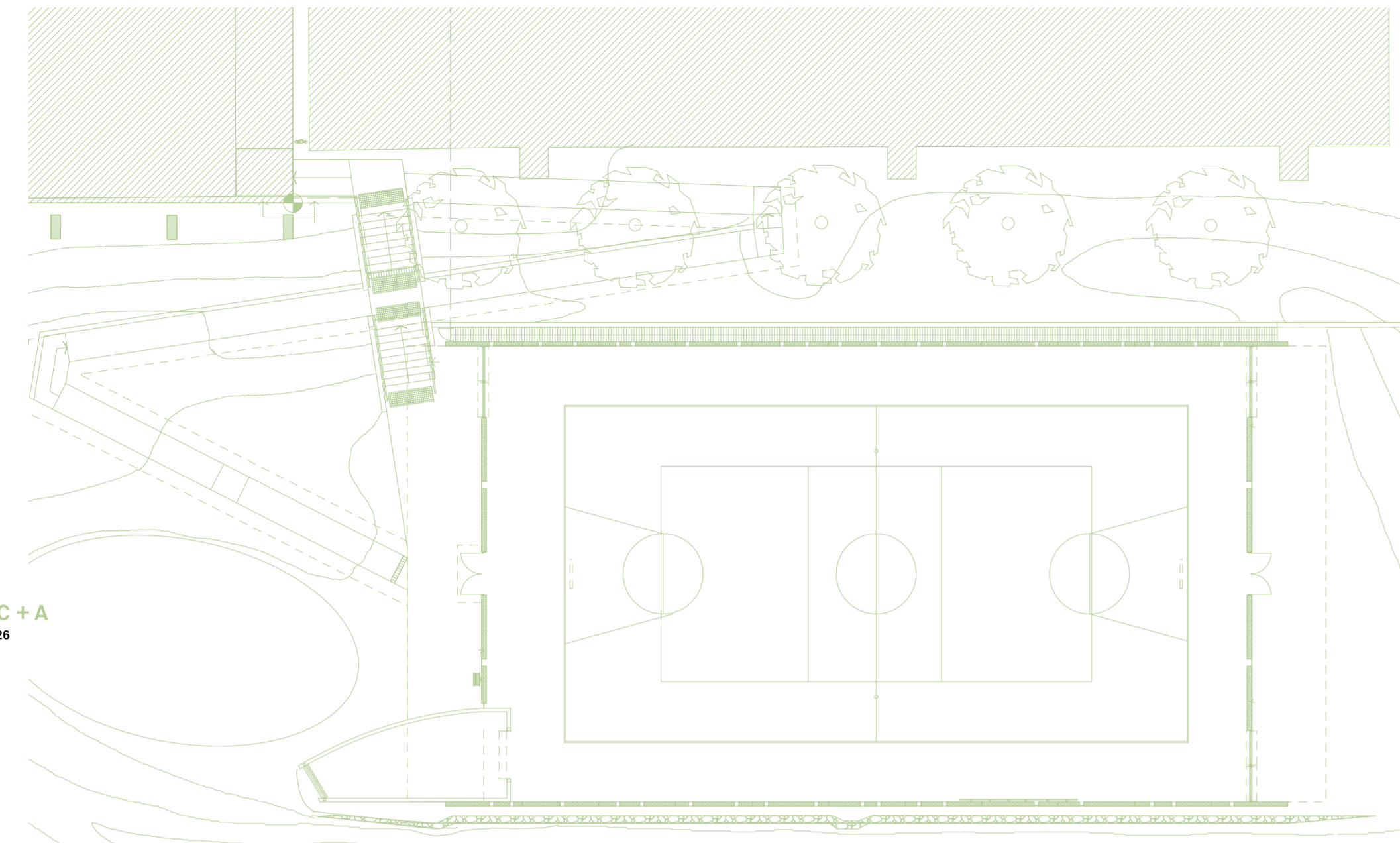


North elevation



East elevation





C + A
26

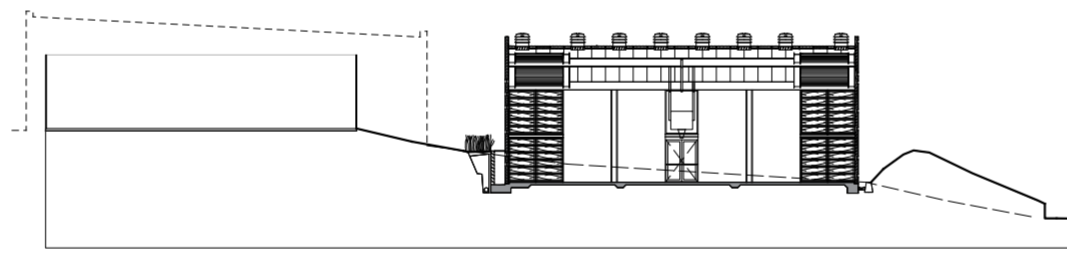
This delightfully simple building presents a clear, clean image that demonstrates the rigour of its thinking and its craft

Floor plan

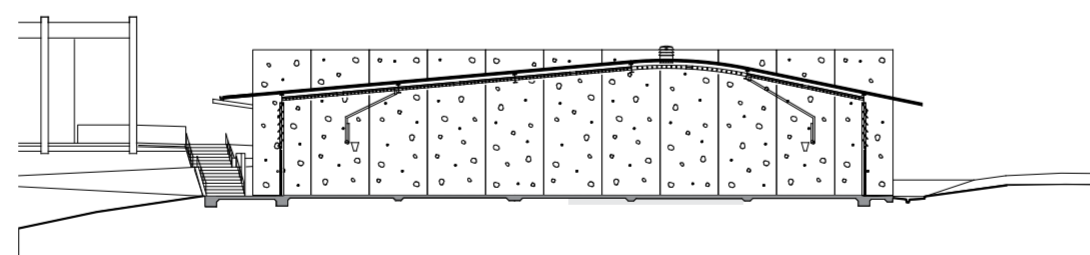


27

The panels were prefabricated offsite, the holes located in a carefully studied pattern. Full-scale test panels with various light shaft patterns were made before an acceptable final configuration was reached. Each panel was later flip-flopped on site during construction to create a random scatter. "We thought that by perforating the concrete walls we could breakdown the perception of weight, giving the building a playful edge and new found lightness and life," Heenan says. The result is a beauty: a near-transparent structure that seems imperceptibly light despite the weight of the concrete. It irresistibly invites the casual visitor to walk up and take a peek through the holes. But the wonder of the hall's 'starlit' sides come into best play on clear, cloudless nights when, lit from within, the building seems to all but disappear as it melds seamlessly with the starry night sky. There are other things here, too, that make this little building special. The roof is composed of 200mm deep composite panels of polystyrene sandwiched between layers of corrugated iron, forming roof and ceiling at the same time. The hall is also a clear span space, made possible by the introduction of a 38 metre lightweight vierendeel steel truss designed to eliminate the need for structural columns. The steel truss assisted in eliminating all bending movement and fixed joints in the concrete, which enabled the architects to adopt an elegantly thin concrete skin for the structure. The large concrete panels on the end elevations are used to transfer all wind loads via the horizontal roof truss to the ground. A row of thermal chimneys and a bank of electronically controlled blades assist in drawing warm air out of the building. Water from the large roof is harvested for landscape irrigation. The hall stands alongside an earlier Allen Jack + Cottier building – a seminar centre and reception hall – with a march of concrete columns at back and front. The hall collected two major awards from the Australian Institute of Architects (NSW) in 2008: a Public Architecture Award and the Blacket Award for Best Regional Architecture, the jury stating, in part: "This delightfully simple building presents a clear, clean image that demonstrates the rigour of its thinking and its craft." The simplicity of the idea is at the heart of this architecture. The risk for its designers was in doing and getting it right. It could so easily have been a barn. JR



Section 1



Section 2



The wonder of the 'starlit' sides of the hall come into play on clear, cloudless nights when, lit from within, the buildings seems to all but disappear as it melds seamlessly with the starry night sky.

C+A
28



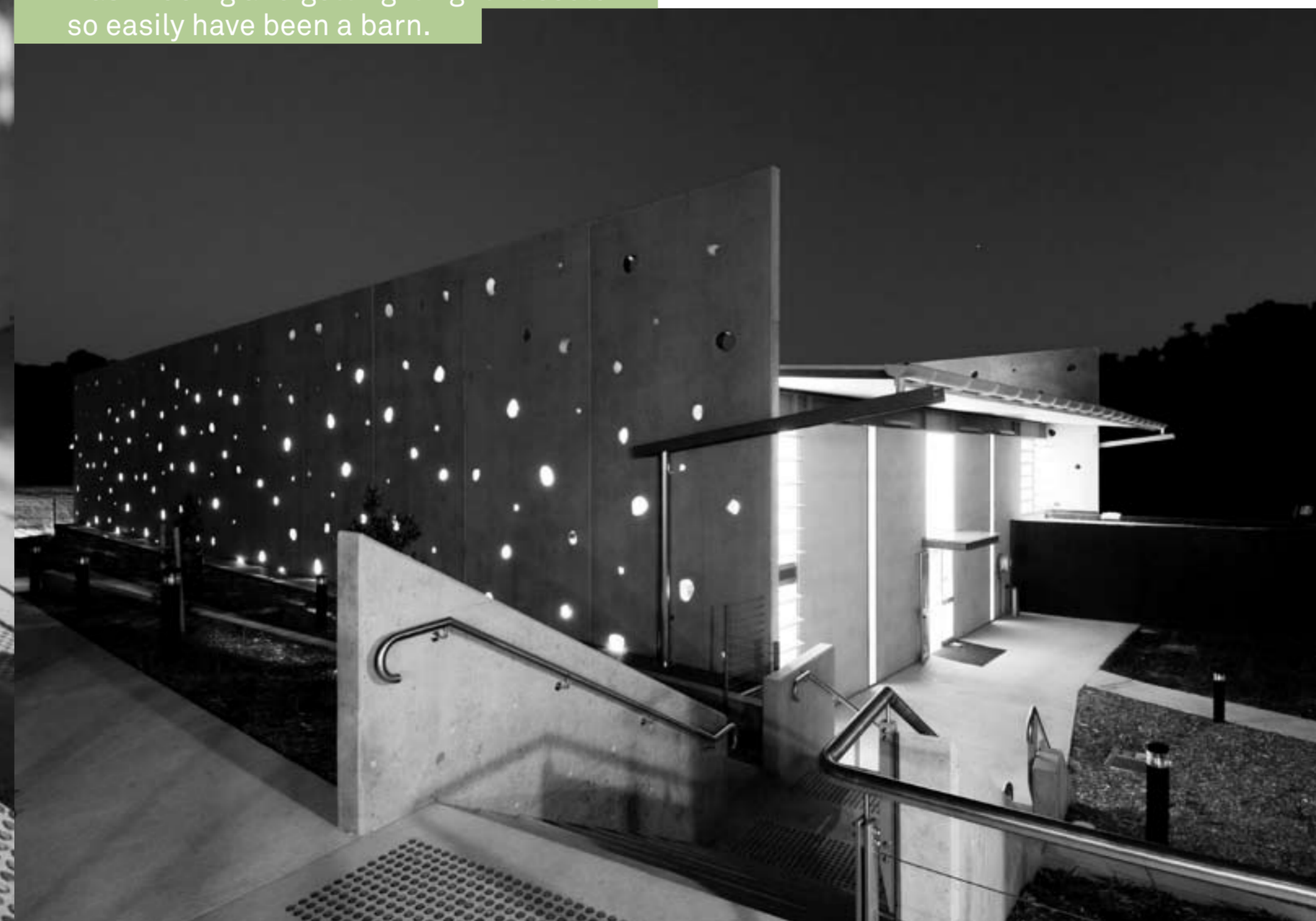
29

Project Statement

The design of this simple concrete building is the result of an integrated and exhaustive environmental modeling, materials research and structural analysis process that soon became a simple study in the capture and escape of light. We even imagined that this massive, heavy farm-like building could melt into the night sky. The materials research phase led quickly to precast concrete. Beautifully finished, large scale concrete panels allowed an accelerated programme and outstanding quality and cost control. The value management of the structural system resulted in a lightweight 38 metre long horizontal Vierendeel truss in the roof plane which eliminated all bending movement and fixed joints in the concrete. This strategy eliminated eighteen steel columns and allowed an elegantly thin concrete wall. The large solid panels of raw concrete on the end elevations are used to transfer all the wind loads from the wall via the horizontal roof truss to the ground. The resultant large savings in the structural budget allowed us to play with the off-form concrete by perforating the walls with an array of 'starlight' holes, thus giving an otherwise hard-line structure a playful edge and a new found lightness and life. A 1.5 tonne test panel with five alternative light shaft prototypes was tested in real production conditions. The selected starlight window had good chamfers, locating blocks, water stops,

sacrificial and permanent film and release mechanisms. It's great, in the final installation, to see the light escaping to the outside and the vignettes to the landscape from inside. The brief was to design a simple robust multipurpose recreation hall within a tight economic constraint, providing an enclosed area for children for basketball, netball, dance, film and theatre performances. The site was located on a gentle downward incline of farmland at the edge of the established built area. The building was cut into the hill, reducing its visible scale and wind loads and grounding it into the landscape. The new building is accessed by stairs framed in concrete shards with an accessible path, which gently cuts across the downward incline within an array of native grasses and trees. The path terminates at the building entry where the cutting has been extended to create a lush oval of grass, surrounded by pastoral grasses and a grove of evergreen trees, which are planted to screen the western sun. The shape of the building is a direct and overt expression of its thermodynamic modelling. A dozen wind turbines combine electronically with a bank of 600mm electronically controlled louvre blades to create a natural and significant ventilation system which can react with prevailing winds. The slope of the roof and the shape of the building are integral to those flows. Summer heat generates convection and cooling aided by the prevailing winds. A winter heat plume acts like an insulation blanket. Natural light from the starlight windows and roof lights floods the hall with even, almost art gallery like light. Roof water is tracked back from the 3.5metre cantilevered composite roof to water tanks for future use. These environmental strategies are explained to hundreds of school kids each week. We worked very hard with the project manager to bring the building in under budget. We directly let the precast supply and installation, prefabricated roof supply and installation and steel supply before tendering the project, thus removing all the risk items from the process and reducing the budget. This is an intriguing building, changing dramatically with the day and night and very much in touch with its surroundings. Michael Heenan, Allen Jack + Cottier

The simplicity of the idea is at the heart of this architecture. The risk for its designers was in doing and getting it right. It could so easily have been a barn.



Project Berry Recreational Hall
Location Berry, New South Wales
Architect Allen Jack + Cottier Architects
Project Team Michael Heenan,
John Whittingham, Kristina Neveriova, KJ Phua
Structural Engineer Appleyard Forrester Consulting
Mechanical Engineer Umow Lai Enginuity
Electrical Umow Lai Enginuity
Hydraulic J & M Group
Landscape Mather & Associates
Builder BATMAC Constructions Pty Limited
Photographers Anthony Browell, Nic Bailey

