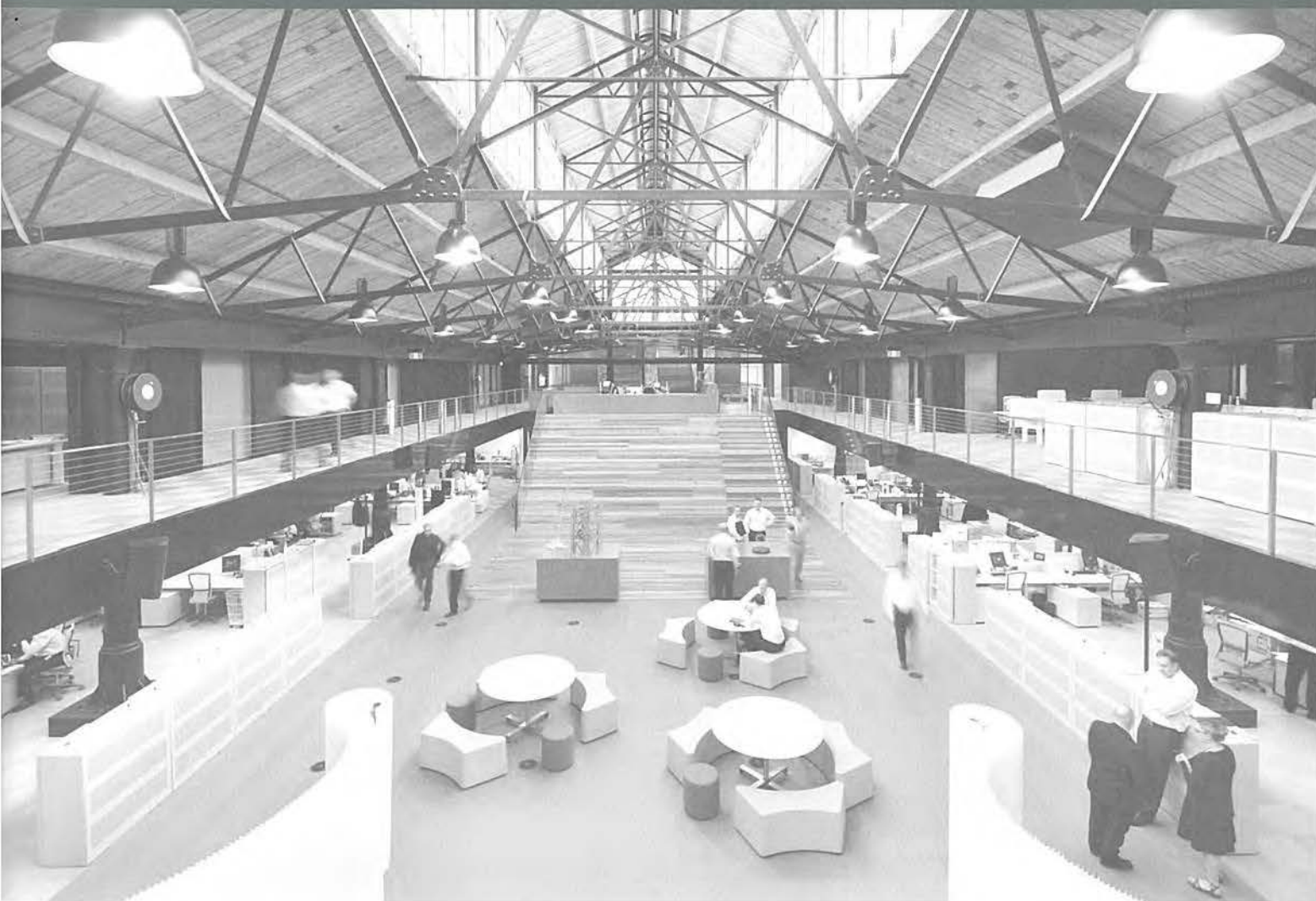


Built Heritage and Sustainability



Historic Environment

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Cover image: No. 2 Goods Shed, Goods Shed North, Melbourne
(Source: Peter Clark Photography, reproduced with permission from VicUrban).

Goods Shed North (No. 2 Goods Shed), Melbourne, interior view

Acclaimed as Victoria's most sustainable heritage building, the adaptation of the Goods Shed North overlays contemporary office accommodation onto a historic building which provides the 'backdrop'. No. 2 Goods Shed is included on the Victorian Heritage Register for its historical and architectural significance to the State of Victoria. At 365 metres long, it is the largest and most architecturally elaborate nineteenth century railway goods building in Victoria. Built in 1889-90, the former railway goods shed, which is the first heritage-listed building in Victoria to attain a GBCA 5-star Green Star rating for office design, is occupied by State government agencies, Vic Urban, the Building Commission and Plumbing Industry Commission. The open interior with views along the axis of the building, clerestory windows, exposed roof trusses, brickwork and cast iron beams are amongst the features that have been retained.

The refurbishment boasts an array of ESD features including an under-floor service trench housing key services and a displacement system which supplies heating and cooling to the building; a tri-generation system with four micro-turbines coupled to an absorption chiller to produce energy. Within the building, active chilled beams provide cooling and ventilation, with hydraulic heating via skirting heaters around the perimeter. Rainwater is harvested from the roof for toilet flushing, and landscape irrigation. A greywater system has been installed along with efficient fixtures and fittings. Energy saving features include the use of recycled materials, and high-efficiency lighting.

Notes on contributors

Tom Alves works at the Office of the Victorian Government Architect within the Department of Premier and Cabinet. He has worked previously in architectural practice and has a PhD in housing and urban studies.

Cameron Archer was raised on a grazing property on the southern tablelands of NSW and has spent much of his career at Tocal College. Over the past twenty years he has worked to conserve Tocal Homestead, including the adaptive reuse of many buildings. Cameron has been the long time President of Paterson Historical Society and is active in local and community affairs across the Hunter. He is also Chair of the Belgenny Farm Trust, administered by the NSW Government to manage and operate Belgenny Farm, the Home Farm complex established by John Macarthur at Camden in 1805.

Susan Balderstone is a conservation architect involved primarily in writing and research. She is a consultant to the World Heritage Centre of the International Council on Monuments and Sites (ICOMOS); a member of the Technical Advisory Committee of the Victorian Heritage Council and Adjunct Professor in Cultural Heritage at Deakin University.

Ellis Judson began her career in the UK where she worked in planning before completing a MSc and specialising in heritage buildings. A Chartered Building Surveyor and member of Royal Institution of Chartered Surveyors, she has lead several successful projects involving conservation and adaptation of heritage buildings. Ellis has over 20 years experience in the private sector and government, including Heritage Victoria, where her responsibilities included Places at Risk, and managing the heritage and sustainability research projects. Ellis is currently completing PhD research reconciling environmental performance and conservation of heritage significance at RMIT University, Melbourne.

Usha Iyer-Raniga is Senior Lecturer at School of Property, Construction and Project Management and Research Area Leader Sustainable Built Environment at the Centre for Design at RMIT University. Usha's primary interest is in sustainability of the built environment, in achieving practical solutions to ensure sustainable outcomes. With Bachelors in Architecture from India and a Masters in Environmental Efficiency and Conservation from Canada, Usha has a strong multidisciplinary approach. She received her PhD in Environmental Planning from the University of Melbourne in 1998.

Eric Martin has practiced architecture since 1973. He is a fellow of the Australian Institute of Architects with a Masters degree in Conservation. He worked with the Department of Housing and Construction until 1981 when he became Canberra Manager and Director of the Cox Group. In 1998 Eric established his architectural practice offering a full range of services in conservation, heritage and access. Eric was founding Chair of the ACT Heritage Council in 1992 and became a Member of

the Order of Australia in 2006 recognizing his contribution to heritage and conservation. He is President of the National Trust of Australia (ACT Branch).

Paul Rappaport is the director of Rappoport Pty Ltd., heritage consultants based in New South Wales. A qualified and registered architect, Paul also has a Masters of Urban and Regional Planning from the University of Sydney, and is currently registered as a PhD Student at the University of New South Wales. Paul has over twenty years experience in historic and cultural heritage, specialising in contemporary modifications to heritage buildings. As well as lecturing extensively, he is an active member of Australia ICOMOS, contributing to a number of the scientific committee events. Paul is also a member of the Society of Architectural Historians, the International Planning History Society, and Interpretation Australia.

Broderick Street is employed by the Victorian Department of Sustainability and Environment as a Senior Policy Officer, in residential and commercial building energy efficiency policy. Over the past twenty three years Broderick's professional career has centred on environmental impact assessment of major projects with the Commonwealth and Victorian Governments. His technical and academic training includes energy efficiency and environmental impact assessment and policy. Broderick and his family have achieved many environmental awards for their efforts to conserve energy and water including Finalists in the 2010 National Save Water Awards.

Sara J. Wilkinson is a Chartered Building Surveyor, a Fellow of the Royal Institution of Chartered Surveyors and a member of the Australian Property Institute. She has an MA in Social Science Research Methods; an MPhil examining conceptual understanding of green buildings and a PhD on building adaptation. She has published many papers and her books include *Best Value in Construction*, *A Greener Home* and *Property Development*. Her research interests include sustainability and adaptation. As an active member of the RICS Oceania Sustainability Working Group, Sara is based in the School of the Built Environment at UTS, Sydney.

James P. C. Wong is a Research Fellow at the Centre for Design RMIT University. He practiced as an Architect for several years in building design and project management ranging from residential, industrial and institutional to high-rise commercial building projects in Asia. His academic expertise lies in sustainable building designs and advanced construction technologies. At RMIT James is involved in the development of a building materials assessment tool using life-cycle assessment methodology. He is also involved in research on environmental assessment of retrofit initiatives for existing buildings in Australia and New Zealand. His research interests are sustainable construction technologies, designs and materials and life-cycle assessment.