

The recipient must be (or have been) a practising structural engineer who has made a significant contribution, preferably nationally and internationally, to the standing and prestige of the structural engineering profession.

The recipient may have a background in consulting engineering, government service, manufacturing, construction, academia, or service with the professional organisation, such as Engineers Australia.

The recipient does not have to be an Australian national nor reside in Australia. However, if the recipient is not an Australian national, the contribution that he/she has made must have had a significant impact in Australia. It is anticipated that, on most occasions, the award will be made to an Australian national.

The recipient must have reached a senior position and be widely recognised as holding eminent standing within the profession.

Without repeating all of the achievements displayed in Peter's biography (which is attached) – it is true to say that Peter is a local institution in Western Australia for Engineering excellence, and his successful and ongoing practice for over 60 years has enriched not only local, but national Engineering practice. With unimpeachable integrity, he has set a visible standard in the community in what constitutes all that is good in Engineering practice. His name is synonymous with the best of the best for Structural Engineering.

As founder of Airey Taylor Consulting Engineers and Scientists has, in 5 decades, revitalised the built environment of Perth and regional Western Australia with approximately 17,000 completed commissions since inception in 1971. A capability statement is attached.

The structural highlights of nearly 60 years of practice would be difficult to entirely list, but his firm (for which he maintains oversight as Managing Director) has provided Structural Engineering response for over 40 State and National Excellence in Construction and Excellence in Materials (Concrete, Steel and other) Award winning projects since 2000 alone.

The Perth City Landscape is abundant with examples of Peter's practice from community projects of note (Telethon Child Health Centre in Subiaco), public art (Numbat and Frilled Neck Lizard aluminum canopies at Mends Street Jetty entrance on the South Perth foreshore), recreational centres (Armadale Aquatic Centre and the recreational areas of the Crown Towers Resort in Burswood) through to accommodation (Panorama Apartments) and many office and commercial sites (Cockburn Central Stage 3 in Success). This feat is repeated in the regions of Western Australia, where his Structural Engineering features in hospitals, civic centres and recreational facilities from Esperance to the Kimberley, that have often come to define the identity of communities.

His landmark projects include the iconic modernist skyscraper QV.1 Tower – which recently was awarded the Richard Roach Jewell Award for Enduring Architecture in the 2019 WA Architecture Awards and was cited as an example of modern Architecture worth Heritage listing by Peter Hobbs, WA Chapter President of the Australian Institute of Architects (West Australian, 11 August 2021, p.53). Peter's groundbreaking pile assisted raft design continues to be cited in Engineering student textbooks. As well as creating new Heritage listing worthy structures, Peter is an acknowledged Heritage expert with the WA Government. His ability to combine new functionality with preserved elements through comprehensive knowledge of historical building methods has resulted in Nationally awarded projects such as the Guildford Hotel redevelopment.

RESPONSE TO SELECTION CRITERIA FOR PETER AIREY

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The quest for perfection in his craft has been nationally recognised by Engineers Australia in an Award of Excellence (Certificate of Recognition – Category 10) in 1998 for his invention of a retroactive fix for structures damaged by clay movement at the Lukeis Residence in Maddington. He also achieved the Australian Engineering Excellence Award Winner for 2011 (Best Project - Redefining Structural Innovation) for the State Theatre Centre of WA structural design. In recognition of his career to date, he was made an Honorary Fellow of Engineers Australia in a ceremony in Canberra in 2018. He continues to practice at the cutting edge.

His prize-winning and pioneering work with substructures were key to his selection by the WA Chapter of Engineers Australia as a reviewer of the draft National Code rewrite of AS4678 (Earth Retaining Structures), with particular focus on Deep Foundations (Working Group 4).. that led to his founding of a further company, Advanced Substructures Limited in 2018 (a capability statement for that company is attached).

His input into the code will have far-reaching significance for the safety and efficacy of substructural projects in wet conditions. His geotechnical collaborator on the working group, Stephen Buttlng of National Geotechnical Consultants, has now joined him at Advanced Substructures Limited on projects for the State Government's underground assets for Metronet. This collaboration of excellence is a testimony to Peter's collegiate nature and openness to the expertise of his peers.

When Cyclone Seroja hit Karratha and surrounds earlier this year, Peter's experience as designer of structures that survived Cyclone Tracey in Darwin in 1974 (and involvement in the reconstruction efforts that followed) made him a natural selection for the Engineers Australia taskforce (WA). Upon nomination, he supplied a comprehensive response to James Cook University's inspection findings that was distributed to Taskforce members and has served as the foundation of their policy response for the State Government (a copy is attached).

His work and representation on this taskforce has led to further collaboration with Mayor of the City of Karratha Peter Long, who is now using Peter's viewpoints and experience to strengthen his local government's policy and procedures in front of further cyclonic events. This collaboration is representation of Peter's clear perspective of the impact of Engineering practice on real world environments that has made him popular among policy makers from Federal Government and Defence (reviewing durability of structures) to State Government (where he is a touchstone for difficult cases for the Department of Finance (Building Management and Works) and Department of Health) and local governments alike.

He has presented dozens of papers and conference presentations over the course of his career, representing his passion for the improvement of Engineering practice.

He performed a national tour in 2013 on the topic of Forensic Engineering (*Forensic Engineering in Concrete Structures Lecture Series*) to all continental capital cities; explaining the process where structures are investigated for analysis of root cause of failures and remediation pathways. This forensic engineering work was further celebrated in 2018 at the Australasian Structural Engineering Conference in Adelaide where he presented three distinct papers about the failures of structures; including a vibrational analysis of a major mining facility for Rio Tinto (attended by and praised by the National Engineering Manager of Rio Tinto, Johnny Yeo).

His fearless and candid representation of facts established by comprehensive review is sought after by government and the legal profession, where his work as an Expert Witness has been praised in both the State Administration Tribunal and other Courts. His ability to communicate complex findings in jargon-free language has led to national commissions, such as a review of the famous Opal Tower structural failure in Sydney.

Since 1996 he established an in-house Scientific capacity for his firm, that provides durability advisory service and studies that in turn inform his Structural designs. His innovation has led to unique systems for construction of low rise buildings on clay resulting in the patented Claylock® system. Further Patents for structural remediation and substructure column design (Piles to Pillars) have been achieved. World first research by Airey Taylor Consulting on the use of glass fibre reinforced polymer rods in compression members was initiated by him at the University of Western Australia.

His advances in this field were presented in a seminar named “A decade of design and practice using GFRP : current and future trends“ as part of the “GFRP Bars for Reinforced Concrete Structures : State of Practice in Australia” online presentation that streamed nationally from EA Queensland on 19 August 2021. 437 registered attendants were recorded for the session, indicating the currency of the topic with the national Engineering profession.

He is unafraid to issue criticism where he feels it is required in the profession – advising the construction industry on shortfalls in substructure design for the biennial National conference of the Concrete Institute of Australia in a paper entitled “Specialist to Detail : The Industry Gap in Substructures” on September 5 of this year (an extract is provided). He will be opening the Infrastructure stream for the conference, which appropriately is themed “Better Concrete through Disruption”, and hopes that the guidance and examples provided will have a lasting impact on the planning and implementation of projects with substructures in Australia.

As well as his leadership by example and his Structural Engineering ability, Peter has had a direct positive impact on the Engineering community by mentoring fresh Engineering graduates from Perth’s Universities. He has mentored at least 50 such engineers in the early stages of their career who have hence proceeded to obtain positions of seniority throughout the Engineering profession. He steadfastly refuses to outsource junior Engineering tasks and keeps this capacity in-house despite impact on costs and billing, as he is aware of their utility in training the future generations of Engineering in Australia.

His excellence as a Structural Engineering designer has been further reflected by international commissions in Tanzania, Thailand, India, the United Arab Emirates and Pakistan.

Whether in research, professional practice, representations to government and the legal profession, or within his own community of practice – Peter has become renowned for world-class structural engineering, urbane professionalism and unimpeachable integrity. As a singularly positive example for Engineering in Australia, he is a worthy recipient of the John Connell Gold Medal.