

**The Institution of Engineers, Australia; Sydney Division  
Engineering Heritage Committee**

**ORAL HISTORY PROGRAM**

**Interviewee:** Kenneth Bond

**Tape Numbers:** 17&18

**Date:** 1 November 1996

**Number of Tapes:** 2

**Restrictions on Use:** Nil

<b>Time</b>	<b>Subjects</b>	<b>Proper Names</b>
<b>Tape MAH 17 Side A</b>		
<b>0.00.00-0.00.53</b>	Tape Identification	
<b>0.00.53-0.5.56</b>	<p>Born 1919, Croydon. Schooling at Fort Street High during the Depression. Mr Bond was fortunate enough to secure a job as a junior draughtsman with R S Morris. Describes the work RS Morris undertook.</p> <p>After 2 1/2 years was asked to join Woolacott and Hale as a draughtsman and this is where his interest in structural engineering was kindled.</p> <p>He decided to study for the exam of the British Institute of Engineering Technology, London, highest qualification available at the time, but with WW11 intervening he instead decided to study and sit for the Australian Institution of Engineers exam. Passed the first half of the exam before he joined the army and the second half after the war (1945) in Borneo. Describes the setting for this exam. Thus at the end of the war he had adequate qualifications to become a consulting engineer.</p>	<p><b>Croydon, Sydney Fort St High.</b></p> <p><b>RS Morris &amp; Co</b></p> <p><b>Woolacott and Hale</b></p> <p><b>British Institute of Engineering Technology</b></p> <p><b>Australian Institution of Engineers exam part A, Sydney Australian Institution of Engineers exam part B, Borneo</b></p>
<b>0.5.56-0.9.15</b>	Details his study program at Fort St High School and of the reasons for his decision	

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	not to study at university in favour of the BIET and IEA correspondence programs. Speaks of how he managed the correspondence program both at home and while on active war service.	<b>BIET &amp; IEA study programs</b>
<b>0.09.19-0.20.24</b>	Mr Bond details his war experience as a platoon Officer with the 18th field company, beginning with a description of the RAE officer's training course at Casula. His first posting was at Port Moresby as a Headquarters Engineer and eventually as a Platoon Officer. Describes the work done at Port Moresby, building hospital facilities. Moved to Finschhafen to construct more hospital accommodation as well as fitting out cargo ships for troop carrying. Returned to Sydney in 1944 where he did a refresher course at the School of Military Engineering at Casula and got married. Soon after he left for Labuan Island where the 9th Division Infantry arrived on June 3 1945 and they arrived 3 days later. Describes Japanese unsuccessful efforts to retake the Island. He arrived back in Sydney in January 1946 and was discharged in April. Describes securing a job with WA Railways before his return and the decision to forego this job in favour of an offer of work with Hale and Woolacott.	<b>18th Field Company Royal Australian Engineers training course Port Moresby, Headquarters engineer and Platoon Officer  Finschhafen  School of Military Engineering, Casula  Labuan Island 9th Infantry Division  WA Railways  Woolacott and Hale</b>
<b>0.20.24-0.25.55</b>	Describes the development of Woolacott and Hale Consulting Engineers after the war and his becoming a partner in 1950. Describes the big jobs that got the firm on its feet after the war -	



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	Government Printing Office and Workshops at Chullora. Notes that the office grew to have 40 employees before he left in 1968.	<b>Government Printing Office</b>
	Describes how he came to set up his own firm of consulting engineer, differences with a colleague and details the development of Bond James Laron and Reid, growing from 10 to 70 employees within 2 years.	<b>Bond James Laron and Reid</b>
	Now the firm is located on the Pacific Highway, North Sydney and is known as Bond, James, Norrie and Marsden.	<b>Now known as Bond James Norrie and Marsden and located, Pacific Highway, North Sydney</b>
<b>0.26.04-0.30.32</b>	Describes in detail the process and problems confronted in setting up the new consultancy in 1950. Describes negotiations and legal difficulties presented over carrying over jobs begun with Woolacott, Hale and Bond ,eg Institute of Technology building, Qantas building.	<b>Institute of Technology Qantas building</b>
<b>Tape MAH 18 Side B</b>		
<b>.00.00-0.00.10</b>	Tape Identification	
<b>0.00.10-0.04.26</b>	Mr Bond speaks of the Government Printing Office (1952) noting the heavily loaded floor, column spacing of 20-24 feet square and an economical innovation of designing the columns as reinforced concrete columns. Speaks at length of designing in reinforced concrete vs structural steel.	<b>Government Printing Office</b>  <b>Reinforced concrete columns</b>
<b>0.4.46-0.10.16</b>	Mr Bond speaks of Behr Manning Factory at Auburn. Details the Lift -slab method of construction and of the Behr Manning experience - the first building in Australia to use Lift Slab method. Notes other buildings they designed using this method - Mungo MacCallum building,	<b>Behr Manning Factory, Auburn</b> <b>Lift-slab construction</b>  <b>Mungo MacCallum Building</b>

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	University of Sydney and the Royal Exchange Assurance building, the latter being the tallest building in the world to use the method. Describes the construction.	<b>Royal Exchange Assurance building</b>
<b>0.10.16-0.13.49</b>	Describes the University Work that he did, starting when at Woolacott and Hale-Carslaw Building, Sydney Uni, School of Architecture, Uni of NSW, Macquarie University - describes the novel construction of some of the buildings, the Behavioural Science Building, Macquarie Uni - exposed aggregate faces, Pre-cast including windows off site - novel approach.	<b>Various university buildings</b>  <b>Macquarie Uni. Pre-cast exposed aggregate faces</b>
<b>0.13.53-0.15.49</b>	Details the construction and design of the ANZ Bank building, Pitt and Hunter Sts (1960). 25-27 stories high. Notes that building of such height were a new thing in Sydney which until then were only allowed to reach 12 stories. A new consideration became lateral loading for wind, especially as the buildings were also becoming lighter. Describes stabilising through Spandrel bracing and lift core.	<b>ANZ Bank, Pitt and Hunter Sts</b>  <b>Lateral loading concerns</b>  <b>Spandrel bracing</b>
<b>0.15.57-0.21.04</b>	Describes design and construction of Commonwealth State Law Courts (1968). Describes in detail the design of the rigid steel frame for the building and the minimal use of field welding in favour of welding in the workshop - stronger, and tested for quality of the weld. Mr Bond recalls the interest in water cooled columns as a method of fire protection.	<b>Commonwealth State Law Courts</b>  <b>Rigid steel frame Reduced field welding</b>  <b>Water-cooled columns</b>
<b>0.21.04-0.25.36</b>	Sydney Water board building (1960).	<b>Sydney Water Board building</b>



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	No internal columns in an area of 75 X 100 feet and Pre-cast floor panels. Describes the design challenges. Notes problems with vibration because of lightly loaded floor. Describes construction design of theatre stalls and that the vibration stability is dependant on the size of the seated audience .	<b>No internal columns and Pre-cast floor columns</b>
<b>0.25.56-0.30.20</b>	Notes that the Institute of Technology had some very interesting aspects to it Describes engineering challenges to support the original concept that building was to be supported on 8 columns, set in at each corner -Pre-cast concrete pan floors -post- tensioned external spandrels - innovative concrete columns/ strength of 8000 psi	<b>Institute of Technology</b>  <b>Mike Dysart, architect</b>  <b>Pre-cast concrete floors post tensioned concrete to a strength of 8000 psi</b>
<b>Tape MAH 18 Side A</b>		
<b>0.00.00-0.00.10</b>	Tape Identification	
<b>0.00.10-0.02.13</b>	Describes the consultancy's involvement in the Grosvenor Place development doing the preliminary engineering work to prepare a tender for the work. Tender unsuccessful because of Superannuation Board's intervention.	<b>Grosvenor Place</b>
<b>0.02.27-0.05.02</b>	Describes involvement with Phillip Cox on Sports buildings-Bruce Sports Stadium (1970) in Canberra. Describes cable supported roof for the Grandstand.	<b>Phillip Cox Bruce Sports Stadium, Canberra Cable supported roof</b>

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<b>0.05.02-0.06.30</b>	Bruce Indoor Sports Stadium, describes catenary cable supported roof.	<b>Catenary cable supported roof</b>
<b>0.06.32-0.11.05</b>	Speaks of the influence of Woolacott on his design ideas, sympathy for architectural needs of buildings. Speaks of the working relationship with architects, where he considers it a collaborative effort and the quality of the end product and professional conduct is paramount.	
<b>0.11.13-0.17.15</b>	Describes his involvement in the restorative and new work on the Powerhouse museum. Details process of restoring the Boiler-house including being stranded in a cherry-picker. Details design of fire floor of the boiler house. Relates the process of designing the arch form for the building now containing the train.	<b>Powerhouse Museum Fire floor Boiler house</b>
<b>0.17.25-0.17.55</b>	Mentions work in the Office building at 7 Hunter St Sydney, now the Taxation Office.	<b>7 Hunter St, Sydney - Taxation Office</b>
<b>0.18.15-0.18.55</b>	Describes the Indoor Sports Centre at Homebush Bay.	<b>Indoor Sports Stadium, Homebush Bay</b>
<b>0.19.09-0.30.03</b>	Relates his experience leading the Trade Mission to the Middle East. Notes that it was managed by Reg Raven, PWD. Six contractors and consultants travelled under him including, an architect, agricultural consultant, representative from SMEC and Laytons. Went to Tehran Saudi Arabia, and the Arab Emirates.	<b>Trade Mission to the Middle East Reg Raven  SMC, Laytons Tehran, Saudi Arabia, Arab Emirates</b>
<b>Tape MAH 18 Side B 0.00.00-0.00.10</b>	Tape Identification	



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<b>0.00.10-0.5.42</b>	Details the experience, relates the cultural differences. Describes visiting Oman. On strength of the contacts made on the trading mission, Bond, James Laron and Reid set up a consortium office in Sharjah. Biggest project was the harbour at Fujairah. Hyundai were building contractors on this project.	<b>Oman</b>  <b>Sharjah</b> <b>Fujairah</b> <b>Hyundai</b>
<b>0.05.42-0.10.32</b>	Describes establishing an office in Noumea and working with a local builder Julian Mary who gained a franchise to do the lift-slab method of construction. Another local Daniel Quetier was the manager. Closed the office, mid 1960s, when it became uneconomic and the difficulties of writing specifications in French grew. Relates travelling in New Caledonia.	<b>Noumea</b> <b>Julian Mary</b> <b>Lift-slab franchise</b>  <b>Daniel Quetier</b>
<b>0.10.32-0.16.52</b>	Joined the Association of Consulting Structural Engineers in 1951. Became President in 1956. Describes the Association and its role. Transferred interest to the Association of Consulting Engineers in the mid 1950s and became President in 1957, 1968 and 1969. Describes the Association and its role. Describes relationship between Institution of Engineers, Australia and the two aforementioned Associations. Mentions the genesis of the Association of Consulting Engineers was prompted when the APEA served consulting engineers with a log of claims (early	<b>Association of Consulting Structural Engineers</b>  <b>Association of Consulting Engineers</b>  <b>Institution of Engineers, Australia</b>  <b>APEA</b>

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	1950's). Became a member of the American Society of Engineers mainly as a source of information and technical development. Comments that engineering is often the process of taking an idea and developing it.	<b>American Society of Engineers</b>
<b>0.17.00</b>	End tape.	